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ON

THE FEEDING OF NATIONS: A STUDY IN APPLIED PHYSIOLOGY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, JUNE 3RD AND 5TH.

BY

E. H. STARLING, C.M.G., M.D., F.R.S.

(Abstract.)

PROFESSOR STARLING remarked that although man's first care had always been to provide his daily bread, the science of dietetics was of comparatively recent origin, and the problems involved were at first tackled exclusively from the standpoint of the individual. In a few instances only were the results utilized for practical purposes connected with society as a whole or with large sections of the community. The provisioning of a nation was regarded as an economic question to be solved by the laws of supply and demand. It was not until the great war broke out that any of the nations awoke to the fact that efforts to provision a community would be disastrous unless based upon physiological principles.

Early Errors.

The Germans were the first to realize this, but even in Germany the first steps were taken by a voluntary association of scientific experts. In this country little heed was paid to scientific considerations until the submarine campaign seriously limited our facilities for shipping and importation. Had not the contingency of a food shortage been foreseen by the chief organ of science in this country—the Royal Society—so that a whole array of facts were at the disposal of the Government so soon as it had been convinced of the need for action, this country might have fared ill.

The Royal Society's Committee.

At the very beginning of the war the Royal Society had founded a Physiological War Committee to make recommendations to the Government on any question involving physiological principles, and in 1915 a subcommittee was entrusted with the examination of all questions affecting food. This subcommittee, largely on the initiative of Dr. Waller, first undertook an examination of the probable position in enemy countries; upon this two reports were presented—in 1915 and 1916. The subcommittee concluded that a predominant factor of the German economic situation was likely to be a shortage of available fats and oils, and pointed out the necessity for the most stringent limitation of imports of fats into Germany. Since the armistice we have learned how true these predictions were, and how much might have been saved in the duration of the war if our statesmen had recognized the all-important part to be played by real restriction of the importation of foodstuffs into Germany.

The subcommittee then estimated the food supply of the United Kingdom, and compared this with the requirements of its inhabitants. They suggested as means of economy a higher recovery of flour in milling, less meat production, increase in the manufacture of cheese at the expense of butter, use for food of materials employed in brewing and distilling, and the diversion of certain quantities of material used for stock feeding to human use. All but one of these recommendations were ultimately adopted and enforced by the Government.

The Factors to be Determined.

It was not until the appointment of Lord Rhondda as Food Controller, in June, 1917, that scientific principles obtained their proper place in the determination of policy. From this time onward the Royal Society Committee acted practically as a scientific consultative committee in all matters of food supply. When, towards the end of 1917, it was decided to pool the resources and supplies of all the allied countries, it became necessary to create an international scientific organ; to this end an Inter-Allied Scientific Food Commission was called into being, and met for the first time in March, 1918. The work of this commission, in continuation of that done for domestic purposes in the United Kingdom, fell under three heads: (1) The actual requirements of the population; (2) the provision of the necessary food, whether by production at home or by importation; (3) the distribution of the food so obtained equitably.

Professor Starling explained the method by which a provisional answer to the first of these questions was obtained, utilizing the data published in the recent report on food requirements of the Royal Society's Committee (reviewed in our issue of March 22nd, 1919, p. 349). He concluded that the average consumption per head in the United Kingdom remained almost stationary during the war and little below that of peace time. The estimate for before the war was 3,410 calories per man, for 1916–17 it was 3,357, and for 1917–18 it was 3,377. No greater testimony could be given to the efficacy of food control based upon scientific knowledge.

Effects of Restricted Food Supply.

Professor Starling next dealt with the effects of a restricted food supply, and adverted to the excess mortality and evidence of generally lowered resistance, especially to tuberculosis, which obtained in Germany in the later years of the war. These observations when they affect a whole nation to such a degree of intensity, naturally attract the attention of all, but they should serve to impress upon us the evil economic effects on the productivity and health of a nation which must result so long as we allow so large a percentage of our population as was the case before the war to live in a state of permanent under-nutrition. Rowntree's data suggested that the mortality amongst the very poor in York was almost twice as high as amongst the best paid sections of the working classes. A nation able to provide for its members with such brilliant success during a European war with a submarine blockade ought to be able to prevent a recurrence in peace of the conditions which disgraced sections of our urban population.

Man, Animals, and Cereals.

Professor Starling then dealt with the composition of foodstuffs on the lines of the Food (War) Committee's recent report. Turning to the provision of food, he showed the wastefulness of animals as energy converters from the point of view of the human consumer, but remarked that the necessity of providing fat was the real physiological justification for the use of animals for the production of human food. In handling the position the German authorities made serious mistakes; their capital error was to permit the maintenance of the large stock of horned cattle, which in June, 1917, actually exceeded the number in 1913. Large quantities of vegetable food and of food which might have been utilized by man were wasted in the mere maintenance of cattle and pigs without any production of meat or fat. The ill-fed cattle deteriorated in quality, their working powers diminished, the milk supply became less and less, and there was a fat famine throughout the land. In this country the risk of a similar position coming about had to be faced. It was dealt with on other lines; more cereals were diverted from stock animals to man, and only one-third of what was available for feeding animals, other than working horses, was provided. Even here the deeply rooted instinct of the farmer to maintain his live-stock created difficulties, and had not the armistice been declared we might have had yet greater cause for complaint as to meat supplies. An important means of securing obedience to scientific principles was the fixing of cereal and meat prices in such a way that, for instance, pork production was made less remunerative than the selling of barley.

Method in Rationing.

Passing to the question of rationing, he said that the key of the problem was the provision of sufficient calories by diversion of food from animals to man, and the assurance of equitable distribution. If all foodstuffs are rationed, the attempt to secure equitable distribution must fail, because the average requirement will be too much for some individuals, too little for others; feeding at a common table, these differences adjust themselves; where individuals are rationed they do not. This explains why all systems of complete rationing have failed hopelessly. It is imperative to leave free some important and complete food which is within the means of all classes of the population, so that each individual can buy of it according to

his desire, and satisfy that part of his calorie needs not covered by the rationed articles. It was the view of the Royal Society Committee that bread must at all costs remain unrationed—a view which ultimately prevailed. The Cabinet determined that if the various measures of diversion from animals and increased production failed to provide enough bread, then carloads of cereals were to enjoy priority over all other shipping, whether of men or munitions of war. At the same time the bread was made sufficiently unattractive—but without diminishing its wholesomeness—to prevent its wasteful consumption, and efforts were made by propaganda and otherwise to reduce the consumption of cereals by providing other foods which might take their place, especially potatoes.

Order of Preference in Importation.

The maintenance of free purchase of bread demanded a strict adjustment of the importation programme, and the Royal Society Committee assigned the following order of preference:

1. A sufficient amount of cereals should be imported as breadstuffs to avoid rationing and to serve as an elastic reserve for the energy needs of the country, and all cereals in the country should be reserved as breadstuffs to meet the full demand for these.

2. A minimum of 16 oz. of fat should be provided a head a week, taking into account not only the meat fat and margarine, but also the fat contained in milk, wheat, and other foods available. In order to bring up the fat of the food to this amount the necessary quantity of bacon, fat meat, and oil seeds must be imported and the home supplies conserved by limiting the use of fat for industrial purposes.

3. A minimum supply of sugar amounting to 8 oz. a head a week must be supplied. Up to these figures, which the Committee regard as minimal, the import of food into this country should take preference of all other claims on shipping.

4. Any tonnage then available for supplying this country with food should be utilized to bring the meat ration up to 2 lb. a head a week.

With the exception of a temporary shortage in fats during the early part of 1918, which incommoded our population but was not attended by any noticeable ill effects on health and efficiency, the United Kingdom was the only nation in Europe which could maintain that no man, woman, or child had to go hungry or leave his or her hunger unsatisfied on account of war conditions.

Croonian Lectures

ON

THE SIGNIFICANCE OF THE CEREBRAL CORTEX.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, JUNE, 1919.

BY

G. ELLIOT SMITH, M.A., M.D., F.R.C.P., F.R.S.,

PROFESSOR OF ANATOMY, UNIVERSITY OF MANCHESTER.

LECTURE I (*Abstract*).

The Evolution of the Cortex.

IN the first of the series of Croonian Lectures on the significance of the cerebral cortex Professor Elliot Smith defined the aim and scope of his task as an attempt to discover how the cerebral cortex acquired its distinctive powers as the organ of intelligence.

Dr. Henry Head's researches have provided a new vision of the significance of the brain, and have thrown such a brilliant light into some of the darkest corners of cerebral structure and function as to compel every investigator of the nervous system to re-study the results of his own investigations with the aid of this new illumination. The activity of the thalamus is the physiological process which is expressed in consciousness by a crude awareness to contact, heat, cold, and pain, and the affective aspects, the pleasantness or unpleasantness, of these experiences, whereas the cerebral cortex endows these basic functions with spacial qualities, intensity and relativity. Dr. Head's recognition of this fundamental distinction makes it incumbent on those who are investigating the problems of the evolution of the brain to inquire into the means by which the cortex acquired its powers of memory, of discrimination, and of spacial reference. The fact that these epicritic attributes are especially associated with the neopallium, which is found in its fully developed form only in the mammalian brain, suggests an inquiry into the nature of cerebral function in vertebrates other than mammals, and into the circumstances which brought the neopallium into existence.

The cerebral cortex was evolved from that part of the brain which originally was little more than the receptive centre for impressions of smell and the instrument for enabling the sense of smell to influence the animal's behaviour. Unlike all the other sensory tracts, those which convey impulses from the olfactory organ reach the cerebral cortex directly—that is, without passing through the thalamus. From a psychological point of view, therefore, the sense of smell occupies a unique and distinctive position. It represents the germ of all the higher psychical powers, or, perhaps it would be more accurate to say, the cement that binds together the elements out of which the powers of the cerebral cortex, as the repository of the impressions of past experiences, the organ of discrimination and appreciation of space and time, are developed.

In the primitive vertebrate behaviour is dominated by the sense of smell. It is the means by which the animal finds its food and determines its qualities, by which it recognizes friends or enemies, sexual mates or rivals. Smell is possessed of affective qualities which endow it with a direct meaning such as is not associated with either of the other two "distance receptors" (Sherrington), vision and the eighth-nerve-sense. In the primitive vertebrate living in the water smell is much more nearly akin to taste than it is in man and the land-living animals. When such an animal perceives the odour of food it is really getting a foretaste of the consummation of the reaction, when it captures the food and actually tastes it. Throughout the whole of the anticipatory phase it is under the influence of olfactory sensations, and a series of events, covering the whole period of anticipation and consummation, is linked together by the affective tone of smell into one experience, which includes the germ of memory and of spacial and temporal appreciation. But the sense of smell itself conveys only the vaguest indications of spacial relations. An animal attracted by a scent circles around until it comes within visual range of its quarry; then the eyes convey more precise information as to its position in space and as to its movements. Such visual information is almost entirely devoid of affective tone, of psychological meaning, which it acquires secondarily from the sense of smell. But it is biologically useful, because it enables the creature to steer its course more directly and accurately to the object of the pursuit; and for this reason it is the optic receptive centre, the tectum of the mid-brain, which in the primitive vertebrate is put into direct connexion with the motor nuclei and directs the movements of the animal. The sense of smell starts the reaction; the sense of sight directs it; the vestibular mechanism (the cerebellum) provides the apparatus for effecting the co-ordination of muscles without which the orderly movements of the whole body would be impossible.

In the course of the pursuit of its prey, when the animal is led by the sense of smell and is controlled by its dominating affective tone, the information collected by all the other sensory mechanisms is added to and woven into the tissue of the complex experience. Hence these other senses acquire a meaning and a share in the psychical activities which constantly increases in importance throughout the vertebrate series, until it culminates in the vast mental powers of man, in which smell plays a humbler and less obtrusive part, although still one of imperious importance.

In the following lectures the attempt will be made to explain how these wider powers were acquired, and the part played by the thalamus and the hypothalamus in this process.

THE United States Public Health Service estimates that more than 7,000,000 persons in the United States are infected with malaria. In the South the ravages of typhoid fever, tuberculosis, hookworm, and pellagra taken together do not equal those of malaria.

OSTEOPLASTIC CLOSURE OF CAVITIES IN BONE.

BY

C. JENNINGS MARSHALL, M.S., M.D.LOND.,
F.R.C.S.ENG., TEMPORARY CAPTAIN R.A.M.C.,
SURGICAL SPECIALIST, LORD DERBY WAR HOSPITAL, WARRINGTON.

WAR surgery has no more frequent late operation than "sequestrotomy," despite the generalized use of the radical wound excision. In a majority of cases the removal of sequestra will complete the healing of the wound, but there is a percentage in which the "bone cavity" arises as an entity of clinical importance. Cavities are, of course, left after the removal of all sequestra embedded in callus; the bone cavity is such a cavity as will not become obliterated by natural means.

The problem of closure of such cavities did not loom very large in pre-war days and tended to become less and less prominent as prompter and more radical methods of treatment were brought to bear upon the causal conditions—for example, acute infective osteomyelitis. Chronic empyema presents the same difficulties—the cavity with rigid infected walls—and modes of treatment of the one are in principle applicable to the other.

Pathology.

In the pathology of the bone cavity in war primary devitalization and septic osteomyelitis, with necrosis and caries of bone, play their part. A cavity results bounded mostly by callus, lined by a granulation layer of varying thickness. Oedema from constriction of vessels by fibrous tissue seems responsible for the pulpy thick layers occasionally found; in other instances a small sequestrum is the cause. The crux is that this granulation tissue is not invaded by bone cells in its deep layers and there is no concentric callus formation. The ingrowth of granulations must be limited largely by this, and not by vascular influences; were the ingrowth of bone to take place adequate blood supply would be assured. For the deficient bone growth sepsis must be held responsible; degeneration and absence of osteoblasts can readily be demonstrated in such cases, just as in non-union of fractures.

Baldly stated the problem is that granulations cannot fill the cavity, the bone around cannot form callus to fill it, and the walls cannot contract and obliterate it.

Methods of Treatment.

Various are the methods that have been employed in dealing with the condition. Broca's method is to remove one of the walls to permit of the surrounding soft tissues to come into contact with the remaining walls. This involves an extensive removal of bone, particularly as the tissues in the region of bad gunshot fractures are usually far from soft. Colonel Sargent has recently described a method which obviates the above disadvantage by using a muscle flap which needs a very much smaller bone removal to permit of its introduction into the cavity. Some form of filling is the alternative to the above principle of treatment. Many materials have been used—for example, blood clot, fat, bone-chips, and sponge. Mosetig's wax (iodoform, spermaceti, and sesame oil), with a correct technique, achieved much success. It has recently, however, been eclipsed by bipp. The success of this preparation has been practically uniform in a certain class of case, *provided always that a proper preparation of the cavity has been carried out.* Neglect of this is accountable for nearly all the failures.

Two Types of Cavity.—In view of the properties of bipp, it is possible to classify bone cavities into two well-defined types (see Diagrams 1 and 2): (A) Where the sinus leading to the cavity passes through a considerable thickness of soft tissues; the necessary thickness varies with the size and shape of the opening into the cavity and the amount of scarring of the parts. (B) In subcutaneous bone—for example, the tibia, or where the superficial soft parts have been destroyed—the skin is bound down to the bony edges. Only failure can result from freeing the skin edges and suturing them over a bipp filling. The (A) cavities react readily to bipp filling—why, it is hardly necessary to discuss—overcoming of sepsis, and the stimulation of osteogenesis play a part; certainly a free growth of granulation occurs. The question naturally arises, Cannot the cases in (B) be converted into Class A? Can we provide a durable covering for a bipp filling? The bone cavity is an open box; can we find a lid for it? It seems to me the question might be solved by the use of a sliding skin-fat-periosteum bone flap.

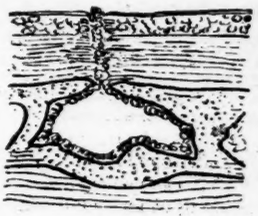

DIAGRAM 1.—Class A.

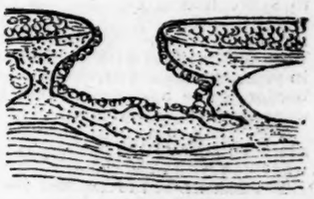

DIAGRAM 2.—Class B.

OPERATIVE PROCEDURE.

The method adopted is illustrated by the following typical case:

Pte. J. (repatriated prisoner of war); wounded March 26th, 1918; admitted Lord Derby War Hospital January 24th, 1919. *X* ray showed sequestra in left tibia at junction of upper and middle third. An opening a quarter of an inch in diameter over the subcutaneous surface of the bone led directly to necrosed bone, and discharged intensely foul pus.

First Operation.

On February 1st a small vertical incision was made with the sinus at its middle; several large sequestra were removed, and beyond these spongy carious bone was curetted away in every direction till healthy tissue was reached. The resulting cavity was cleansed with peroxide and packed with flavine gauze. The opening in the bone measured ½ in. by 1 in.

At the end of twenty-four hours the packing was removed and intermittent irrigation instituted; flavine and Dakin's solution on alternate days (three times and six times per diem respectively). A smear of fair thickness, examined on February 25th, showed two bacilli and two streptococci per field.

Plastic Operation.

On February 27th the cavity was first curetted again and the whole of the newly formed granulations removed; the interior was cleansed with hydrogen peroxide, dried, and packed with gauze soaked in "preparation" iodine. The skin area was again cleaned. (The use of strict aseptic technique throughout is assumed.) Next the skin incision was prolonged upwards for a short way, and converted into a J by a curved cut extending inferiorly over the posterior tibial border about one inch below the inferior border of the opening (Diagram 3). The skin and subcutaneous tissue at the lower part of the flap thus marked out were raised as far as the lower level of the opening, where a transverse incision was made in the periosteum extending to the posterior tibial border (Diagram 4). A vertical incision in

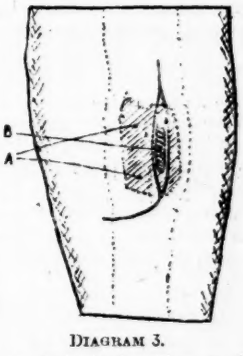

DIAGRAM 3.

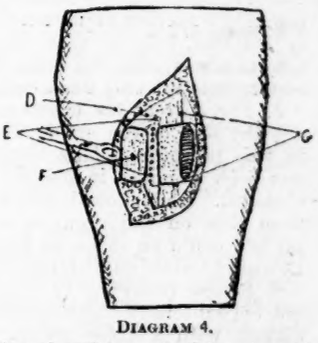

DIAGRAM 4.

A, Extent of cavity. B, Opening of cavity. C, Incision in periosteum. D, Flap of periosteum. E, Cut in periosteum freeing flap. F, Bone flake.

the periosteum one inch in length was next made, extending vertically from the upper limit of the opening, and through this incision the periosteum was lifted, together with fat and skin, as far back as the tibial border, by means of a fine sharp periosteum detacher. (It is, of course, essential that the separation be carried no lower than the upper limit of the opening.) The bone slice from the cortex was next raised by a fine chisel; the cuts were made along (1) the periosteal incision below, (2) the lower level of periosteal detachment above (an oblique use of the chisel or a keyhole saw is desirable here to avoid further stripping of periosteum), (3) and then into the side of the cortex presenting at the opening; by a combination of chiselling and gentle leverage a flake of bone, 1½ in. vertically by ¾ in. transversely, was raised, the posterior attachment being fractured. The flake was between ½ in. and ¾ in. at

its thickest. To permit the flap thus fashioned to slip into place it was then necessary (1) to make a cut with scissors in the periosteum at the posterior border of the bone flake and to extend this cut to the upper limit of periosteal detachment; (2) to undercut the skin posteriorly (in some cases it is necessary to make lateral cuts to free the skin sufficiently to secure apposition without tension; in others a U-shaped flap is preferable). The anterior, upper, and lower borders of the opening were next levelled with a chisel to allow the flake to sit squarely in place. A further strip of skin was excised along the anterior border of the opening, so that the suture line should lie well away from the opening.

The whole area was cleansed with peroxide, haemostasis attended to, and the packing removed from the cavity, which was filled with bipp paste.

The fixation of the flap was effected by (1) interrupted fishing gut sutures through the skin; (2) a wide mattress suture passed *deep* to the bone flap (Diagram 5).

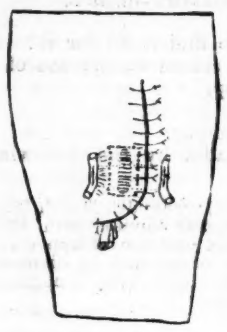

DIAGRAM 5.

A rubber-dam drain was inserted at the lower part of the J (in some cases a separate stab-incision is best), a flavine gauze dressing was applied, and the limb splinted.

After-Progress.

Reaction of 100.6° and 100.0° occurred on the second and third days; typical bipp sero-pus drained for two weeks. The upper end of the incision ulcerated where the stitches passed through old scar. Stitches were removed on the tenth day. The ulcerated area was dressed with flavine, brilliant green being useful occasionally as a stimulant.

In one month the bone flap was firmly fixed in place. Complete healing occurred in five weeks.

VARIATIONS.

1. *Sepsis.*—In many cases the cavity reaches the central hospital "ready made." Nevertheless, a preliminary cleansing operation with a subsequent sterilizing course is desirable. It is difficult to give any precise smear figure for the septicity margin that can be dealt with by bipp. In any case it is much lower than the smear figure for the cavity before the plastic operation, as the infected tissue is removed by the curette. In half the cases both streptococci and bacilli have been present in the smears (though never more than two or three per field in a thickish smear); one would not dream of suturing soft parts under such circumstances. The period between the two operations is usually much shorter than that in the case recorded; seven to ten days is usually sufficient. Clinical "cleanness" of appearance in these cases seems as dependable as the smear estimate, as far as ultimate results go.

2. *The Bone Flap.*—Extra vascularity can be secured by utilizing a portion of cortex into which muscle or tendon is inserted. In a case where part of the sartorius insertion was used, the bone flap oozed freely. Splinting counteracts the only disadvantage.

3. *The Size of the Opening.*—The size of the opening, not the size of the cavity, is the most important factor in this procedure. The largest opening so far dealt with has been 2 inches in length; perfectly sound union was obtained. Should one hesitate at using a bone flake longer than this, on the grounds of its nutrition, a periosteal pedicle could be made at both ends, or periosteum alone be used to cover part of the cavity.

4. *Severe Scarring of Skin with Ulceration.*—I have not encountered extensive ulceration of the skin in association with a bone cavity. It is courting disaster to attempt to form a flap out of scar tissue; the shortest plan of treatment would be wide removal of one of the walls of the cavity, but even after this one would have to be prepared for a severe reaction or worse. The flap itself should not contain any but the slightest scar.

RESULTS.

Thirteen cases have been treated in this manner—one in the humerus, one in the ilium, the rest in the tibia.

In two cases in which the cavity was very clean (and no sequestra present) the preliminary operation was dispensed with; no untoward result followed.

In six cases there was a reaction of 100° to 101°; locally, inflammatory oedema has been the utmost complication apart from stitch ulceration in old scars.

Three healed per primam with no serous discharge; the rest had the usual bipp sero-pus for periods varying from one to three weeks; one was reinjected with bipp on two occasions, the bone flap not being a good "fit"; sound healing was attained ultimately. The average time of complete healing was three and a half weeks.

In no case has necrosis of any part of the bone flap occurred. The bony union was sound in every case but one at the end of a month, as far as palpation could ascertain. In the case in which two injections of bipp were needed, union of the flap was delayed till nine weeks after the operation.

SUMMARY.

1. Bipp filling of bone cavities is in every case a successful method of treatment provided always that the preparation is thorough.

2. There are two types of cases: (A) The larger group—where a sufficient thickness of soft tissues is present to cover the opening—here simple filling is adequate. (B) Where no soft tissues can be placed over the opening, which lies flush with the skin; these cases can be treated successfully by covering the opening with a skin-bone flap and filling the cavity with bipp.

3. *The advantages* are:

(*a*) Less extensive disturbance of tissues than in any other operative procedure for closure of the cavity—no small consideration in war scars.

(*b*) Anatomical restoration of the bone is achieved; strengthening and not weakening results; fresh osteogenetic surfaces are exposed.

(*c*) Good cosmetic result.

The objections are:

1. A foreign body is left in the tissues; but it (*a*) combats infection, (*b*) stimulates osteogenesis, and (*c*) is removed naturally when these ends have been attained.

2. *Sepsis* is neutralized by adequate preparation, careful technique, and bipp.

3. *A plastic bone operation* is not to be approached lightly in the presence of the slightest sepsis. But (*a*) the bone used is more vascular than normal; (*b*) the exceedingly vascular bone at muscular insertions can be used; (*c*) bipp smearing prevents infection.

4. *Difficulty of Raising the Flap.*—Much patience and care are needed in the use of the chisel and saw. War hospitals are not often equipped with electric saws; the two experiences I have had of the use of Albee's motor in bone grafting leave no doubt that the operation could be greatly simplified by this instrument.

My thanks are due to Colonel A. Simpson, Administrator of the Lord Derby War Hospital, for permission to publish this article; and to Major MacNeill, officer in charge, surgical division, for his advice and help in reading the proofs.

CHRONIC BONY FISTULAE.*

BY

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CASES of chronic bony fistulae arising from a compound fracture and discharging mouths, or even years, after the infliction of the wound, are to be found in every large military hospital. The French authorities have established special hospitals and centres for such cases, and various kinds of special treatment, including thermal baths, radiant heat, and injections of various kinds, have been tried. But, in spite of these methods and the issue of special rules and instructions, a considerable number of such cases came under my care during the summer and autumn of 1918. During earlier periods of work in France I had treated such cases by the removal, as thoroughly as possible, of the focus of infection and of all dead or foreign material, and then disinfection of the wound by applying pure carbolic acid and tincture of iodine, plugging the whole for forty-eight hours with iodoform gauze, and then allowing the wound to granulate up.

As a rule, the cases so treated did fairly well, and probably 70 per cent., or more, were cured. The cure, however, was lengthy, and in a certain proportion of cases

* Read before the Surgical Section of the Royal Academy of Medicine in Ireland, February 28th, 1919.

the plan failed even after two or more operations. I think I have overcome this difficulty by the use of modified bipp. The chronicity of these cases is due to the fact that the infection is firmly implanted in the tissue of the bone, and that frequently a sequestrum or foreign body is present. If on *x*-ray examination either of these complications is present, no cure can be expected from any method of treatment, which does not include their removal. The operation must be planned after the results of *x*-ray examination are known. If possible the fistulous track should be excised right down to the bone, and the more of the fibrous scar tissue removed the better. When the bone is reached, the periosteum should be raised for some distance all round the opening. The whole infected areas of the bone should be thoroughly explored and laid open, all sequestra and foreign bodies should be taken away, all overhanging walls removed by forceps or chisel, until the walls of the cavity in the bone slope gradually to the deepest point. If possible the bony walls should be gouged away till healthy bone is reached, as is shown by free oozing from the cut surface. Frequently it is not possible to carry out this step of the operation completely. The whole wound is now dried and swabbed with ether or methylated spirit and packed for a couple of minutes with gauze wrung out of one or other of these liquids. Modified bipp (iodoform 2, bismuth 1, and vaseline 12) is then rubbed into the walls of the bony cavity, which finally is filled with it. If the cavity is small and regular, and it has been possible to remove its original walls fairly completely, and if there is a good depth of healthy tissue between it and the skin, the wound may be closed in layers, using one or two layers or even more of catgut for the periosteum and muscles, a separate layer of catgut for the deep fascia, and silk impregnated with bipp for the skin and superficial fascia with a few sutures of fine silkworm gut to obtain good coaptation of the skin edges. Gauze smeared with bipp is placed over the wound, and a thick layer of wool and a firm bandage is applied. If all goes well, the dressing need not be changed till the stitches are removed about the tenth day, when the wound will be found firmly healed.

If, however, for any reason it is not thought safe to close the wound it is plugged tightly with a long strip of iodoform gauze impregnated with bipp. The wound is first dressed at the end of forty-eight hours, when on removal of the gauze a perfectly dry clean cavity should be left. It is filled with bipp. A superficial dressing is applied and changed every fourth or fifth day, fresh bipp being put into the cavity as fast as it disappears. It is a matter of surprise how quickly a large cavity will fill up and heal under this treatment; in no circumstances should curiosity ever tempt one to put a probe into one of these cavities during the course of healing, or interfere with it in any way. Indeed, I look upon a probe as one of the most dangerous of surgical instruments and a fruitful source of chronicity and delay in healing. The healing of these cases can often be hastened by inserting loose sutures at the operation and tying them at the first or a subsequent dressing. In some few cases it may be advisable, if the cavity left is very large, to undertake a special operation for suture at the end of about a week, when it is seen that the wound is dry and that there is no further tendency to suppuration. The reason for plugging tightly for forty-eight hours is to check the haemorrhage and get a perfectly dry wound; the bipp with which it is then filled is as nearly as possible innocuous to new formed granulation tissue, and is pushed out as the latter fills up the cavity, till finally epithelialization can take place.

One great advantage of this treatment is that the gauze impregnated with bipp can be removed without causing fresh haemorrhage, as it does not stick to the walls of the cavity; its removal is practically painless. There is probably no special virtue in using iodoform gauze, beyond the fact that it is easily obtained in suitable widths without ravelled edges. I have never seen any signs of iodoform poisoning even after the use of two or more yards of iodoform gauze used with 3 or 4 oz. of bipp; the excess of bipp is gradually squeezed out as the gauze is packed thoroughly home into the cavity.

During last summer and autumn I had under my immediate care 25 cases of chronic bony fistulae, which had lasted for periods ranging from two months to over four years. The average duration of all these cases from the time they were wounded until operated on by me was a few days over sixteen months; many of them had passed through six or more hospitals, and more than one had already been operated on seven or more times. Practically all the larger bones of both upper and lower extremities, and also the ribs, sternum, pubis, and crest of the ilium, were so treated. In 22 cases, or 88 per cent., the wounds were completely cicatrized when the patient left the hospital. One required a small secondary operation, done under cocaine anaesthesia, before he could be evacuated cured. All the others were submitted only to one operation; in 12 cases the operation was concluded by plugging, in 9 by complete suture, and in one the wound was partially sutured and partially plugged. In these 22 cases the average length of time between the date of the wound and the curative operation was exactly sixteen months, whereas the average stay in hospital after operation was only one month and two days. Eight cases were discharged healed in a fortnight, though three of them had had previous treatment for over forty months. One of these, it must be noted, had been a prisoner in Germany for over three years. Only three patients remained in hospital for two months or longer; the longest period was ten weeks, and this patient had been previously treated for seventeen months. In one of the three cases unhealed when I left France there was an extensive wound of the sternum and ribs which had been under treatment for five and a half months before operation; three weeks later it was nearly healed. In a second case, of injury to the ribs complicated by empyema, the wound had been received twenty-five months previously. I operated on him twice; at the first operation some necrosed pieces of ribs were removed, but the presence of pus in the pleural cavity was not discovered; the second operation was performed less than a month before I left France, and at the time of my departure the patient was doing very well and the discharge was greatly reduced, so that a cure might be looked for. The third case gave more trouble.

A soldier was admitted two months after being wounded in the back of the right chest. There was a sinus just below the right sterno-clavicular articulation. He stated that the shell fragment had lodged, and that when admitted to the field ambulance there was a swelling where he now had the fistula. An incision made in the hope of finding a projectile refused to heal, and resulted in the sinus seen on his admission. Though he had a scar below the right scapula, repeated *x*-ray examination failed to detect the presence of a foreign body in the thorax, abdomen, or neck. At the operation it was found that the fistula led to the joint between the first right costal cartilage and sternum. The cartilage and border of the sternum were removed, the wound was sutured but failed to heal; six weeks later the wound was again excised and plugged, the same thing was done three months later, and finally a fourth operation was performed exactly six months after the first, and the wound was closed by suture. Even this was not a complete success, but three weeks later there was only a little clear serum coming away, and it looked as if the wound would soon be healed. It is hard to decide from the history what was the cause of this fistula; the operation performed at the ambulance was apparently only trivial, as only cocaine was used, and it is hard to imagine that the bones and joint could have been injured or infected, and it was certainly not done by the projectile. It is perhaps possible that there was an unrecognized tuberculous process going on at this point, the swelling caused by which was first recognized when examining the patient for an exit wound. This theory would explain the marked failure to respond to operative treatment.

Of the three cases, or 12 per cent., in which a cure is not claimed the average period of previous treatment was eleven months, whereas the average time of observation afterwards was three and a quarter months. Two cases, the first and the third, were, at the time of my departure, rapidly progressing towards recovery, and have probably before this become cured, one, it must be confessed, only after his fourth operation. The other case was complicated by an empyema, and though his condition, both local and general, was greatly improved, yet his complete recovery could not be vouched for with any certainty. In illustration, I shall give the following brief details of a few typical cases.

CASE I.

A young soldier, admitted July 2nd, 1918, wounded by a shell splinter in the left leg on July 7th, 1917. An old fracture of both bones of the leg at the junction of the lower and middle thirds had caused considerable shortening and much scar tissue. There was a discharging sinus over the inner aspect of the tibia and two over the fibula. He had undergone several operations. On July 3rd the sinus over the tibia was excised and a large area of bone exposed, the opening in the bone was

freely enlarged and a sequestrum removed. The sinuses over the fibula were curetted, but no sequestra were found; the surrounding skin was extensively undermined and thick silk sutures were put in so as to close the wound except in the centre. Bipp was applied to the bone cavity, which was packed with bipp iodoform gauze. This was removed after forty-eight hours, and a cavity the size of a large walnut was filled with bipp. The dressings were changed every fourth or fifth day. The cavity gradually filled up and when he left hospital on September 10th, nine weeks after the operation, the wound was completely healed.

CASE II.

A soldier admitted on July 9th, 1918, had been wounded by a shell in the left arm on April 30th, 1918. The left humerus was fractured in the upper third. On September 13th, four and a half months after being wounded, he presented fistulae of the upper third of the arm; the *x* ray showed that the fracture was consolidated, and that a sequestrum was present. At the operation the two fistulae were enlarged and the bone exposed, the bridge of bone between the fistulae was taken away with the gouge, and several large sequestra were removed from the interior of the bone. Another sinus on the back of the arm was also enlarged and a large sequestrum removed from the surface of the humerus. The interior of the bone was cleaned and douched with Dakin's solution, and after application of bipp was packed with bipp iodoform gauze. He was evacuated cured on November 5th, 1918, seven weeks after operation.

CASE III.

A soldier was admitted on September 23rd, 1918. He had been wounded in the upper part of the left arm by a bullet on February 23rd, 1915, forty-three months previously. He had been operated on several times, but still had a sinus connected with the upper third of the humerus. On September 30th, 1918, the fistula and cicatrix were completely excised, the bone was bare and rough on the surface, and this area was removed by the chisel. The whole wound was treated with bipp. The muscles and deep fascia were united by two layers of catgut, and the skin closed with silk and silkworm gut. He was dressed on the sixth day and the stitches were removed on the eighth day, and he left hospital completely healed on October 14th, a fortnight after the operation.

CASE IV.

A soldier wounded in the left forearm by a shell splinter on May 27th, 1917, when seen on October 17th, 1918, sixteen and three-quarter months later, had two sinuses still discharging over the back of the left ulna. At the operation the middle third of the ulna was freely exposed, the two sinuses were thrown into one, and both central and superficial sequestra were removed, the cavity in the bone was cleaned with bipp and packed with bipp iodoform gauze. The wound was almost completely closed by deep silk sutures. The plug was removed at the end of forty-eight hours and the wound encouraged to close. It was soundly healed three weeks later.

CASE V.

A soldier wounded in the left leg on April 17th, 1917, when seen on October 25th, 1918, eighteen months later, had a sinus over the upper end of the inner surface of the left tibia. The *x* ray showed that the bone had been fractured, and though there was great irregularity at the seat of fracture, no sequestrum could be seen. On operation, bone at the bottom of the sinus was found bare and irregular; this was chiselled away, and the wound cleaned with bipp; the tissues were sutured in layers with catgut, and the skin closed with silk. The stitches had been removed, and the wound was soundly healed at the end of a fortnight.

Only 88 per cent. of cures are claimed, though it might be suggested that the real percentage of cures was more accurately 96 per cent. However, even the lower figure is quite high enough to give encouragement to those who have felt inclined to despair over the chronicity of these bony fistulae. When I speak of cure in these cases I cannot guarantee a permanent cure in every case, as I have not been able to follow the after-history for a sufficiently long time. All have seen cases in which, usually as the result of some trivial injury or excessive strain, infection has re-started in wounds that had remained healed for months. But I would hope that the large amount of bipp left in these wounds would tend permanently to inhibit the action of any organisms that remained in the tissues, or would even cause their final destruction. In this list I have not included several successful operations for recurrent abscesses developing in wounded limbs at various periods after cicatrization, because, although in most cases they were originally complicated by fracture and ostitis, at the operation no diseased bone was found.

There is a large field for this method of treatment in civil practice in cases of chronic middle-ear disease and complicating mastoiditis. We treated three cases of the latter complication, with surprisingly rapid results, the wounds in each case healing and the discharge from the ear ceasing in between three and four weeks. I suggest that a trial should be made of laying these cases freely open, plugging them with bipp iodoform gauze for forty-eight hours and then filling the wounds with bipp and allowing them to heal up.

I heard the statement frequently made that these cases of chronic bony fistulae suffered from excessive zeal on the part of the surgeon; so far from this being the case, I think they suffer more frequently from a lack of zeal. The surgeon is disheartened and is satisfied with what one might describe as a "scrapeotomy," instead of undertaking a proper surgical procedure based on modern surgical principles. It is much better to perform one complete operation, even though extensive, which has a fair chance of success, than to perform a limited operation and find oneself forced by its failure to operate again and perhaps yet again.

A METHOD OF SECURING RAPID HEALING OF BONE SINUSES.

BY

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Fistule osseuse in the late war was the despair of French military surgeons. Their attitude towards the condition had come to be one almost of surgical impatience; and as late as the winter of 1917 this attitude received official countenance in a ministerial circular which suggested that the "fistulized" should be sent to fashionable spas—in the vague hope, it seemed, that an angel might trouble the waters!

A considerable and tedious experience of this condition had led us to regard the official view with a measure at least of understanding. We had, indeed, several immediate successes after operation, but these were occasional, and the prospect of obtaining cicatrization within a few weeks after a single surgical intervention was slight and uncertain.

Our immediate successes had been secured chiefly by instillations every two hours of Daufresne's standardized solution of hypochlorite, after the method of Carrel—notably in a difficult case of a sinus of one and a half years' standing opening in the middle line of the popliteal space. It led into a cavity in the lower end of the femur, from which we removed a sequestrum 3 in. long and ¼ in. broad. The wound was completely cicatrized six weeks after operation. In a similar interval of six weeks after sequestrectomy we obtained the healing of a double sinus of the lower end of the tibia.

Another post-operative treatment which occasionally encouraged us was the daily injection of iodoform and bismuth subnitrate suspended in liquid paraffin, used alone or alternately with Carrel instillations. By this method a case of tarsal sinus, which had persisted two and a half years and had been operated on eight times, healed within four weeks.

But these were bright particular instances, and although out of 17 cases we only thrice failed to secure ultimate cicatrization, yet prior to our acquaintance with Mr. Stoney's method success was too often made tedious by repeated operation and protracted treatment, and it was not until our adoption of his technique that we began to approach these cases with a new zest and a confidence which we were able to justify.

Among 15 consecutive cases we had two failures—that is to say, cases which did not cicatrize after a single operation. (One of these cases cicatrized six weeks after a second intervention.) Of the 13 successful cases, 6 were healed in or within four weeks, 4 in or within six weeks, and of the remaining 3 cases one was discharged in seven weeks and the other two were delayed in hospital simply by a trophic eczematous condition of the skin resulting from injury to nerves. Of these 15 cases 11 were treated by suture. In the remaining 4, in which this was not possible owing to inclusion of the sinus in an extensive cicatrix, treatment was by plugging, as described by Mr. Stoney.

The cases which were discharged cicatrized from our

hospital appeared immediately before a French medical board, which sent them on convalescence.

In no case did we observe any symptom of poisoning either by iodoform or bismuth.

RADICAL CURE OF FEMORAL HERNIA BY THE INGUINAL ROUTE.

BY

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DURING the period of the war 509 cases of hernia have come under my care for operative treatment at various hospitals. All types—inguinal, femoral, ventral, umbilical—have been dealt with, and the age of the patients has varied from 9 months to 72 years. Fifteen of these herniae were strangulated, and in the whole series no death has occurred.

Thirty-seven cases of femoral hernia were met with, and of these 10 were strangulated. The method of procedure by the inguinal route is not new. It is attributed to Lotheissen, and was made the subject of a communication by Mr. C. H. Fagge in 1911. I became acquainted with the operation by witnessing it in Paris in 1909, and since that time have consistently adopted it. Mr. Fagge in his paper said:

> So many of the younger surgeons now use this method that it is unnecessary for me to give exact details of the process.

Since that date men from nearly every school in the kingdom and from the colonies have acted as my residents, and I can only call to mind one who had ever seen femoral hernia dealt with in this manner. It would appear that the operation is not well known, and reference to standard textbooks supports this view. In Choyce's *System of Surgery*, Cheyne and Burghard's *Manual of Surgical Treatment*, and Burghard's *System of Operative Surgery*, no mention of it is made. Warren mentions it somewhat casually, but gives no details as to its performance. The only two books that give it due prominence are Rowland's and Turner's *Operative Surgery* and Taylor's *Operative Surgery*. Burghard (*System of Operative Surgery*) emphatically maintains that, apart from efficient ligation of the sac, no other procedure is really necessary, but qualifies this by suggesting that some endeavour should be made to close the ring as an extra precaution. R. W. Murray also holds that ligation of the sac is all that is required to obviate recurrence.

In Keen's *Surgery*, however, it is noted that mere ligation is attended by 30 per cent. of recurrences. Particularly emphatic is the statement in Cheyne and Burghard's *Manual of Surgical Treatment:*

> In femoral hernia, besides obliterating the neck of the sac, it is necessary to do something to reduce the size of the femoral canal, as otherwise recurrence takes place apparently invariably.

These views are supported by the fact that at one time at one hospital there were under my care three cases of recurrent femoral hernia operated on by London surgeons of repute.

Multitudinous methods are described for dealing with the femoral ring and canal—a sure indication that no particular method can be safely relied on to prevent recurrence. In my opinion, the method of approach from below is unsound. Exposure of the femoral ring from above gives better access to the essential structures concerned. Of the procedures based on these lines the Lotheissen operation is considered the best, both from an anatomical and practical standpoint.

I propose to give a brief description of the operation, as applied to ordinary strangulated cases, with comments on the difficulties encountered and the advantages accruing.

The incision is that employed in the case of inguinal hernia. It should be free and prolonged at its lower end. The external ring is defined together with Poupart's ligament, and the external oblique aponeurosis divided throughout the length of the inguinal canal (Fig. 1). The arching fibres of the conjoined tendon are cleanly demonstrated, the cord or round ligament defined and dislocated from its bed. An incision is then made through the transversalis fascia where it forms the posterior wall of the inner part of the inguinal canal (Fig. 2).

The extraperitoneal fat is thus exposed and the deep epigastric vein lying well to the inner side of the artery is sought for at the outer end of the incision. This vein marks the outer edge of the peritoneal diverticulum that leads to the femoral ring. Separation of it renders easy the definition of the outer aspect of the neck of the sac. Some curved blunt instrument or the finger can then be passed behind the neck of the sac and made to emerge in the wound on its inner side. The condition of the sac as to contents can then be easily ascertained. If it is clear that nothing is passing through the neck from the peritoneal cavity, an endeavour is made by blunt dissection and gentle traction to deliver the sac from the thigh. In Fig. 3 this has been done, and the unopened sac is presenting in the wound. The sac is opened and ligated at or above the junction with the peritoneal cavity (Fig. 4). The iliac vessels are then pulled outwards and the femoral ring clearly defined. Three sutures are then passed through the conjoined tendon above, and below through the posterior thickened margin of the femoral ring—Cooper's ligament. The outermost of these sutures lies close to the vein and should be inserted first (Fig. 5). The passage of these sutures is quite easy if a small half-circle needle be used. When tied, these sutures bring the conjoined tendon in contact with the posterior boundary of the ring, and a new bed for the cord or round ligament is thus constituted. It will be noted that no attempt is made to close the femoral ring. All direct communication with the peritoneal cavity is abolished—the femoral ring opens into the musculature of the anterior abdominal wall. In Fig. 6 a probe has been passed through the femoral ring into the thigh, the better to demonstrate this altered relationship. The remaining structures are united as in an inguinal hernia.

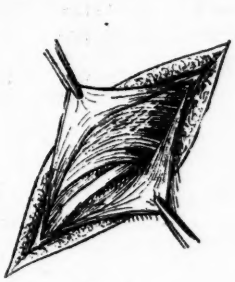


FIG. 1.

FIG. 2.

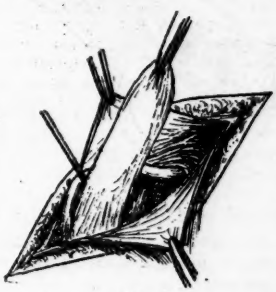


FIG. 3.

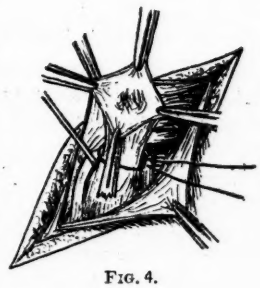


FIG. 4.

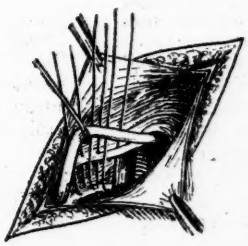


FIG. 5.

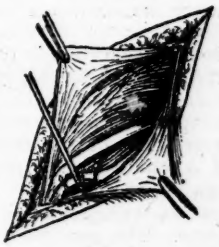


FIG. 6.

It happens fairly frequently that, though empty, the sac cannot be delivered easily. In this case the neck is cut across, and the hole in the peritoneum thus resulting is sewn up in the usual way. Taylor (*Operative Surgery*) comments on this difficulty, and advises that the incision be prolonged down into the thigh in order to aid delivery above by exposure and manipulation of the sac from below. This is laborious and quite unnecessary. It was my

custom in such cases to leave the sac in the thigh, but this procedure was abandoned after a somewhat unusual experience. I had left in the thigh a thick sac, which could be readily detected. The patient had an attack of vomiting some time after. This was really attributable to bad food, but she was sent up as an urgent case with a diagnosis of strangulated femoral hernia. The sac can be very quickly removed by undercutting the lower lip of the incision, and since then I have always removed it in this way.

Should the sac not be empty, the peritoneal cavity is opened immediately without any attempt at delivery of the sac, and in any doubtful case this is the easiest and safest course to pursue. The nature and condition of the contents is apparent at once. The most frequent content in an unstrangulated case is omentum and is in my experience the only content that becomes adherent to the sac. No attempt is made to separate these adhesions, but

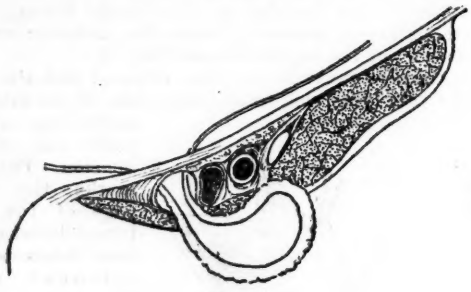


FIG. 7.

the omentum is ligatured and cut off in the peritoneal cavity. The neck of the sac is then cut across, the sac with its adherent omentum being removed at a later stage in the manner above described.

On one occasion the bladder was encountered not as a hernial content but forming the inner wall of the sac. From below it might well have been included in the ligation of the sac, from above the condition was obvious and readily dealt with.

It has been urged that the operation is complicated, and the only reference to it in Keen's *Surgery* dubs it as such and so dismisses it. That it can be made complicated there is no doubt. The operation is rather more difficult in the male owing to the presence of the cord, but in these circumstances I have completed the operation, without undue haste, in eighteen minutes.

Operation from above has even greater claims in strangulated than in simple cases. The general peritoneal cavity is opened as soon as the extraperitoneal fat has been exposed. The condition of the bowel at the site of and above the constriction can be immediately determined. An abnormal obturator artery can be seen and avoided—it has been encountered on three occasions. When the operation is undertaken from below and the gut is not viable, textbooks on operative surgery recommend, almost without exception, that resection should be performed through a second abdominal incision. By the inguinal route a secondary incision is unnecessary, sufficient exposure being easily obtained to permit of the performance of any procedure that may be deemed necessary. Invagination of a gangrenous patch, excision of a gangrenous area without division of the mesentery, and excision of bowel and mesentery with lateral anastomosis have been accomplished in comfort.

Opportunity has been afforded of noting the nature of the constricting agent. It has been observed that reduction by an upward pull is difficult before the constriction is relieved. In other words, the resistance of the constricting ring to distension is considerable. The anterior, posterior and internal boundaries of the femoral ring are dense resistant structures, but the same cannot be said of the slight fibrous partition of the femoral sheath that forms its other boundary, on the side of the femoral vein. The resistance to distension of any ring can only be that of its weakest segment, and it follows therefore that the rôle of the femoral ring as a constricting agent has been exaggerated.

This theoretical consideration was put to the test in the last strangulated case—a male patient aged 72. Gimbernat's ligament was carefully divided outside the sac to such an extent that a finger could be introduced between these structures. The reduction of the sac contents—a Richter's hernia of small bowel—was in no degree facilitated. Not until the neck of the sac itself was divided could the bowel be drawn up.

In operating from below the constriction is usually relieved from inside the sac, thus dividing its neck and Gimbernat's ligament at the same time. No due assessment can be made in this way of the relative parts played by each. It is contended that the essential agent in strangulation is the thickened neck of the sac, and that Gimbernat's ligament is merely a reinforcing structure. Another striking feature is the frequent occurrence of a Richter's hernia in association with a hydrocele of a hernial sac. In many of the simple cases dealt with the hernia was irreducible, and in every such case a hydrocele was demonstrated. It was noted that the hydrocele did not involve the neck of the sac, but was terminated at a level distinctly below it, at a situation indeed corresponding to

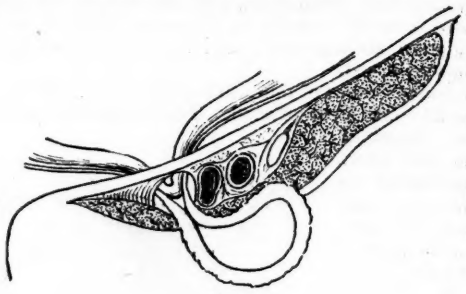


FIG. 8.

that at which the sac is twisted upward and outward, as it emerges from the saphenous opening (Fig. 7). It would appear that the combined effect of axial rotation and friction determines fusion of the sac walls at this site, and brings about the condition shown in Fig. 8, a condition readily complicated by the occurrence, as depicted, of a Richter's hernia. Irreducible femoral hernia of this type may easily escape notice, but the necessity for operation is obvious, and should be undertaken as soon as the diagnosis is made.

Advantages of Inguinal Route.

The advantages of the inguinal route operation may be summed up as follows:

1. It provides a certain means of cure.
2. It permits direct view of the essential structures.
3. Abnormal conditions can be recognized and dealt with.
4. Resection can be undertaken through the original incision.
5. It is neither difficult nor complicated.

OBSERVATIONS ON THE OPERATIVE TREATMENT OF TUBERCULOSIS OF THE LARYNX.

BY DR. THOMAS RÜEDI,
LARYNGOLOGIST, DAVOS, SWITZERLAND.

DURING a period of six years I have treated at Davos 575 cases of laryngeal tuberculosis. On these 575 cases 1,548 operations were performed. In 61 cases curetting only was performed, in 168 both curetting and cauterization, and in the remaining 1,319 the electro-cautery alone was employed. In every instance the laryngeal tuberculosis accompanied pulmonary tuberculosis, it being usually a case of stationary pulmonary tuberculosis (of the third degree, according to Turban-Gerhardt's classification) and of tuberculous laryngitis brought by the patient with him to Davos. In 39 cases the pulmonary tuberculosis was clinically demonstrable by the lung specialist as unilateral only (in 25 cases on the right and in 14 on the left). Of the 25 right-sided patients it was found that in 5 cases only the right side of the larynx, and in 4 cases only the left was affected. Of the 14 cases whose pulmonary tuberculosis was left-sided it was found that in 2 cases only the right and in one case only the left side of the larynx was affected. This agrees with the observations of Besold and Gidionsen and others, and argues against homolaterality of pulmonary and laryngeal tuberculosis.

In 259 cases the laryngitis was not serious—that is to say, it was limited to a simple and circumscribed focus, and was in a stationary condition; in 265 cases it was of medium gravity—that is to say, there were multiple but limited foci without tendency to rapid progression; in 59 cases it was grave—that is to say, with diffuse foci and rapid progression and caseation.

The tuberculous lesions were situated most usually on the vocal cords, less frequently on the arytenoids, and less often still on the epiglottis. The proportion of closed infiltrations to that of open lesions (ulcerated) was 1 to 5.

The patients were submitted to operation for their laryngeal lesions only after their general condition had been improved by fairly long fresh-air treatment. In the case of a certain number of them conservative treatment by means of painting with caustics or anaesthetics or by heliotherapy was employed beforehand. It was only after the non-success of these measures that resort was had to operation. This plan presented the advantage that the operative therapy was utilized only under good conditions and on tuberculous patients whose processes had become, so to speak, stationary.

The operation was now and then followed by a recrudescence of the pulmonary tuberculosis, especially in cases in which activity of the latter could be established beforehand. Accordingly the conclusion reached was that operation for tuberculous laryngitis should be undertaken only in the case of patients in whom the pulmonary tuberculosis is stationary, whose general condition is good, and who are free from fever, exception being made in the case of patients suffering from obstinate cough or from dysphagia. Several patients, however, were operated upon notwithstanding fever and progressive pulmonary tuberculosis, and that, too, with a rather favourable result not only on the laryngeal but also on the pulmonary lesion.

The operative method which gave the best results was that of electro-cauterization according to the method of Professors Mermod and Siebenmann with its abundantly destructive action. The sharp-pointed cautery, used deeply, was employed in cases of diffuse closed infiltration (oedematous perichondritis), but its moderate effect is far from being equal to that of the Mermod-Siebenmann method. Experience teaches how far the destructive action of cauterization may be carried at a sitting. Even after very thorough cauterization no serious oedema was observed. Tracheotomy for post-operation stenosis was never necessary. Haemorrhage following the operation was observed twice, in one of the cases ten days afterwards. On the other hand, it must be emphasized that frequently the laryngeal operation had to be postponed on account of haemorrhage which set in beforehand.

The ability to apply the cautery in all the nooks and crannies, of destroying the tuberculous foci deeply and thoroughly, and of obtaining on the burn a thick slough as protection against secondary infections, is an enormous advantage over the curette method. The latter shows itself superior to cauterization only in cases of resection and amputation.

In summarizing the post-operation results, 154 cases, which could be traced only for a month at most, must be eliminated as doubtful, as also 34 very serious cases which were operated upon solely to relieve their sufferings.

The 387 cases whose progress could be followed, may be classified as follows:

Laryngeal Tuberculosis.	Not Improved, or Little Improved.	Moderately Improved.	On the Way to Cure.	Cured.*
First stage	8	46	37	89
Second stage	42	89	13	48
Third stage	13	0	0	2
Total	63	135	50	139

* That is, three months to five years after operation.

Often enough the affection, in particular tuberculosis of the vocal cords, could be said to be cured four to five weeks after operation, but only those cases have been counted as cured in which clean cicatrization devoid of all reaction was to be observed three months after the last interference. Those in whom the last interference took place less than three months before writing, have been classed under the heading "on the way to cure." A complete cure could be thus established 139 times, that is, in 35.9 per cent. of all the cases observed and followed. Several of them have settled permanently at Davos.

To summarize, for the cases traced, cure of laryngeal tuberculosis was obtained 139 times, as follows:

First stage:
In 180 cases, cure was obtained 89 times=49.4 per cent.

Second stage:
In 192 cases, cure was obtained 48 times=25.0 per cent.

Third stage:
In 15 cases, cure was obtained in 2 cases=13.3 per cent.

Comparison of the percentages in the first and second classes illustrates the importance of operative therapy in the stage of simple circumscribed tuberculosis of the larynx. The length of time after the last interference that the cure could be verified was as follows:

3 to 6 months in	59 cases
6 months to 1 year in	26 ,,
1 to 2 years in	26 ,,
2 to 3 years in	12 ,,
3 to 4 years in	10 ,,
4 to 5 years in	5 ,,
More than 5 years in	1 case

In these cases the lesions were 81 times of the vocal cords and 53 times of the interarytenoid region; 55 cases showed tuberculous lesions of the cords on one or both sides, and 20 cases simple circumscribed tuberculosis of the arytenoids. Thus, in 105 cases of isolated lesions of the cords, followed and checked, cure ensued in 52 per cent., and in 74 cases of isolated circumscribed lesions of the interarytenoid region in 27 per cent. The percentage of cures obtained by interference is thus in the cases of isolated lesions of the cords almost double that in the cases of isolated interarytenoid lesions. The latter are characterized by a strong tendency to relapse, not only after curetting but also after treatment by very thorough electro-cauterization.

Conclusions.

These results of my endolaryngeal operations for tuberculosis of the larynx lead me to the following conclusions:

1. Tuberculosis of the larynx is curable.

2. Spontaneous improvement as well as cure can be repeatedly observed in Davos under the influence of general treatment, but it must be denied that improvement in the pulmonary condition has a favourable effect on the laryngeal lesion. In several cases the fresh air cure, as also the usual local conservative treatment, in particular heliotherapy, were insufficient or ineffectual, notwithstanding improvement in the pulmonary condition. A considerable proportion of these cases could be cured by operation.

3. Operative treatment of tuberculosis of the larynx should be undertaken only in cases in which there is no fever and the pulmonary condition is stationary, exception being made for cases in which urgent symptoms demand interference.

4. The best method is electro-cauterization (Mermod-Siebenmann's method) with its broad and deeply destructive radical effect. Only in cases of tuberculosis of the epiglottis did curetting prove itself better than resection or amputation.

5. Operative treatment resulted in cure in a little more than a third of the number of cases followed and checked. The best results (52 per cent. of cures) were obtained in the electro-cauterization of the cords.

6. Operative treatment exercised in several cases a very favourable influence on the lungs and on the general condition.

7. The contention that a stay at a high altitude is contra-indicated for tuberculosis of the larynx is wrong. Even in cases of pulmonary tuberculosis complicated by laryngeal tuberculosis a stay in the high mountains is indicated in accordance with modern experience of both. When the altitude has a favourable influence on the pulmonary, without being able to ameliorate the laryngeal lesions, one must employ local treatment by electro-cauterization according to Mermod-Siebenmann's method which can bring about a particularly rapid cure under the favourable influence which the climate of the high mountains exerts on the vitality of the organism.

NOTE ON THE BACTERIOLOGICAL QUALITIES OF ROOF-COLLECTED SAMPLES OF RAIN WATER.

BY SIR ALEXANDER HOUSTON, K.B.E., M.B., D.Sc.

As a result of a conference of delegates of municipal authorities and others, held in connexion with the Smoke Abatement Exhibition in 1912, a committee was formed for the investigation of atmospheric pollution. The committee's first report was published in 1916, and together with the succeeding reports are full of valuable information bearing directly, or indirectly, on the quality of rain water.

The writer, in his recent book on *Rural Water Supplies and their Purification*,* dealt fairly exhaustively with rain water as a source of water supply.

From a health point of view, rain water has the advantage that it is practically free from the possibility of *human* excremental pollution. That is, of course, excluding those cases where the rain water is stored in pervious underground tanks, unfavourably situated as regards drains, cesspools, and other sources of dangerous contamination. On the other hand, roof-collected rain water may be contaminated by the "droppings" of birds, the excreta of rats, mice, and other lower animals, and a multitude of flies, insects, etc.

Speaking generally, there is nothing in the chemical composition of rain water to preclude its use for drinking purposes apart from its physical qualities and taste.

As regards taste, even pure rain water is apt to have a flat, insipid taste, and impure samples are so objectionable as almost to create feelings of nausea.

The physical appearances of rain water are often most uninviting. It is frequently highly coloured, and contains much suspended matter.

The writer in the aforenamed book dealt rather fully with the physical and chemical qualities of rain water and the means to be adopted to bring about its purification. He now seeks to supplement this information with a brief account of the results of some bacteriological investigations.

In common with many others, the writer sought during the war to economize in every way in the use of water and so reduce the consumption of coal.

One obvious way of attaining this object was to collect the rain water and use it for garden watering purposes instead of relying solely on the Metropolitan Water Supply.

Accordingly, a small tank (21 in. by 17 in. by 16 in.) was connected with one of the rainfall pipes leading from the gutters so as to collect a proportion of the rain falling on the total roof space.

The writer's house is situated just within the four mile radius, and it occurred to him to test the bacteriological quality of the water, as representing town rain water, from time to time, the samples being usually collected during, or just after, heavy rainfall.

As there is no "rain water separator," as no precautions were taken to clean out the gutters, and as birds (sparrows, thrushes, blackbirds, etc.) are numerous in the neighbourhood owing to the close proximity of a large open area of about four acres of grass bordered by trees, there seemed some reason to suppose that the conditions were, at all events, not conducive to extreme purity.

The bacteriological results were remarkably and uniformly good. The number of bacteria (agar at 37° C.) was very small (1.8 per c.cm.), and in bile-salt agar no microbes grew, even when 10 c.cm. were used for cultural purposes. No typical *B. coli* were present in 100 c.cm. of any of the nineteen samples collected between July 11th, 1918, and April 29th, 1919.

The writer is far from suggesting that these results are typical of roof-collected rain water, but they do seem to show that rain collected in this way need not *necessarily* be impure as judged by the ordinary bacteriological tests. The investigations are still in progress, and the writer would be glad to receive and examine in his spare time a reasonable number of samples, collected from other sources, sent by any of his readers who are interested in the subject. Sterile bottles should, of course, be used for this purpose, holding at least 150 c.cm., and the samples should preferably be sent "iced."

In the reviews on his book (*Rural Water Supplies and their Purification*) the writer noted that some of the "reviewers" were rather led to conclude that the author advocated individual as opposed to concerted effort in purifying water. This, of course, is far from being the case, the writer being a strong supporter of publicly controlled water supplies. The book was written with the avowed object of trying to help those who had the misfortune to be so situated that no public source of water supply was available. Under these conditions the only wise thing to do is to make the best use of existing circumstances. It is true that in these cases it is much more common to utilize well, spring, or brook water for domestic purposes, but where these sources of water supply are liable to be polluted, or otherwise objectionable, the use of rain water is not unsound on hygienic grounds. The best means of rendering rain water palatable are described in detail in the writer's book.

* *Rural Water Supplies and their Purification.* Messrs. John Bale, Sons and Danielsson, Ltd. 1918.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DISAPPOINTMENTS AFTER GASTRO-ENTEROSTOMY.

THE following case occurring in my practice is of some interest in view of the recent correspondence on this subject:

L. R., a young girl, was operated on in 1914 for gastric ulcer, the operation being gastro-jejunostomy. Pain and vomiting returned after an interval of a few weeks, in consequence of which a second operation was undertaken in 1915 by another surgeon; this consisted of an entero-anastomosis of duodenum and jejunum. The vomiting again returned after another short interval, and has persisted ever since.

In August, 1918, the abdominal scar, which until then had been quite healthy, appeared to give way in the middle line, and gradually formed a wound the size of a shilling, and from which blood-stained fluid escaped. The wound was packed daily with cyanide gauze, 2 ft. of 1 in. gauze being easily inserted. That the wound communicated with the intestine was proved by the fact that a piece of packing gauze 2 ft. in length escaped into the wound and was passed per rectum, and also that partly digested food passed from the wound soon after the patient had taken it.

The fistula has now apparently closed, and the patient is again suffering from the same acute pain and vomiting after even liquid food.

The vomiting in this case was at first attributed to reflex conditions, but it now seems to be proved to be due to physical obstruction following the gastro-jejunostomy.

I believe the condition to be sufficiently rare to justify publication.

Bedworth. LIONEL E. ORTON.

EFFICIENT TREATMENT OF CHRONIC RUNNING EAR.

IN my opinion the comments of Dr. William Wilson in the JOURNAL of May 24th, p. 642, are open to severe criticism.

Dr. Wilson says he has based his experience on three and a half years as an aural surgeon in the army. I venture to suggest that that experience is not sufficient to form an opinion of real value in this important branch of surgery, on the following grounds:

(*a*) Many of the cases, I take it, he quotes are caused by rupture of the membrana tympani by shell fire or by other cause, and infection caused by sand or other dirt.

(*b*) It is not to be expected that many of his cases were tuberculous.

I should like to take Dr. Wilson's comments as by his own paragraphs.

1. This has been to my knowledge the usual practice for many years past.

2. This has also been the orthodox practice except that the treatment in some cases may be in the out-patient room.

3. This certainly has been the practice of most aural surgeons in recently infected cases, and I take it that most of Dr. Wilson's cases were so.

4. Again this has been the usual hospital practice for years past.

It is common knowledge that after treatment such as described by Dr. Wilson the discharge grows less and less and until it may cease altogether—the perforation healing over. But does Dr. Wilson mean to suggest that the case is cured? if so, I differ from him—it means that the acuteness has passed away exactly in the same way that an acute attack of appendicitis may pass off with rest and diet, but only to awaken again under the smallest provocation. Can Dr. Wilson say what is going on in the mastoid antrum away from his eyesight, also in the attic and tympanum? Dr. Wilson appears to have forgotten for the moment the future possibility of extradural abscess, lateral sinus thrombosis, lepto-meningitis, cerebral abscess, cerebellar abscess, etc. The question may be asked, How far is an aural surgeon justified in placing so lightly aside such possible and even probable consequences of non-operative treatment?

I do not, however, mean to convey that I would advocate a radical mastoid operation in all cases of ear discharge, but Dr. Wilson, to my mind, takes a very conservative and one-sided view of his suggested palliative treatment. I hold that it is the duty of an aural surgeon to explain such possible future consequences as named above fairly to the patient so that he may be able to decide for himself as to operation or not.

It does not appear, then, to me that Dr. Wilson's sweeping statements can be called logical.

Southsea, Hants. ARTHUR M. BARFORD, F.R.C.S.

TETANUS IN CIVIL PRACTICE: TREATMENT BY SERUM: RECOVERY.

A FARMER, aged 39, was seen on February 9th, 1919, complaining of a small nail puncture under the left hallux. This was treated by antiseptic fomentations; by February 12th there was slight suppuration, but in two days this had ceased, and the wound had healed completely. Nothing could be seen, there was no pain, and the patient could walk comfortably.

On February 28th he was seen again, complaining of "sore throat"; there was no marked difficulty in swallowing.

No change had taken place on March 3rd, but from March 4th he began to get worse, and by March 6th there was marked stiffness of the jaws; the mouth could not be opened, mastication was impossible; the tongue could not be protruded; slight risus sardonicus was present. No local signs could be discovered in the mouth. The teeth were very carious. A diagnosis of tetanus was made, and a large dose of chloral and bromide administered.

On March 7th there was stiffness and pain in the muscles of the back and pain on breathing. At 10 a.m. chloroform was administered and by lumbar puncture 15,000 units of antitetanic serum injected. At 10 p.m. syr. chloral ʒij, potassium bromide gr. xxx, were administered and continued nightly.

Daily injections of 8,000 units of serum were given subcutaneously. By March 12th distinct improvement had occurred. The stiffness of the back had passed off, and the mouth could be opened and the tongue protruded, although slight rigidity of the face was still present.

A final injection of 8,000 units was given on March 14th, and the dose of chloral given at night diminished. Rapid improvement and an uninterrupted recovery followed.

Points of interest in the case are the length of the incubation period (three weeks), the slight symptoms, the absence of definite well marked spasms, and the insignificance of the wound.

Nailsea, near Bristol. R. F. WHITE, M.B., Ch.B.

ABDOMINAL PREGNANCY.

ON September 18th, 1918, a woman aged 35 was admitted to the maternity ward of Sheffield Union Hospital. She stated that she had had four normal labours previously, that her last period had occurred in November, and that she had had "labour pains" for a week before admission.

The patient looked ill and anxious, and complained of a foul taste in her mouth. The tongue was dry and coated. The temperature was 99.6°. The abdomen, which was enlarged up to the ensiform cartilage, felt very tense, and was extremely tender; fetal parts were very difficult to make out. There was a soft elastic swelling above the pubes. The uterine souffle was heard on the left side, but the fetal heart sounds were not heard. The presentation was vertex, low down in the pelvis, and movable; the os uteri was represented by a small dimple immediately beneath the symphysis pubis. The urine was acid, specific gravity 1022, and contained albumin.

Captain Clark diagnosed abdominal pregnancy, and the abdomen was opened. The uterus was found to be enlarged up to the size of a five months' pregnancy; the Fallopian tubes were intact. A full-time dead fetus was found to be lying in a bag of membranes which was attached to the left side of the broad ligament. The fetus was extracted, the broad ligament clamped, and the mass removed. The placenta was attached partly to the pelvic colon and partly to the broad ligament, and in separating it a considerable amount of haemorrhage occurred. The patient's pulse became very feeble, and the abdomen was closed as quickly as possible, the lower third of the wound being kept open by three long gauze drains. An intravenous injection of two pints of saline was given when the patient was put back to bed.

After operation the patient was incontinent, and did not retain glucose injections by bowel. On September 20th she had an attack of vomiting, with distension of the abdomen. The gauze drains were removed on September 21st, and a long piece of gauze soaked in flavine inserted behind the uterus. There was a small quantity of lochia. On September 25th the temperature rose to 101.4°. On September 27th a faecal fistula developed, and a piece of membrane presented through the wound. An attack of phlebitis in the left leg, which began on October 10th, had completely cleared up on October 28th.

When the patient was discharged from hospital quite well, on February 3rd, 1919, the wound was completely healed.

Sheffield. CAROLINE V. LOWE, M.B.

A CASE OF DIAPHRAGMATIC HERNIA.

THE following notes on a case of diaphragmatic hernia, which recently came into my wards at Monte Video Hospital, Weymouth, may be of sufficient interest to warrant publication:

History.—Sgt. F. was admitted on the evening of December 13th, 1918, with signs of intestinal obstruction, persistent vomiting, and absolute constipation for two days. He had been wounded by a bullet from an automatic pistol on April 15th, 1917. He was in bed for three weeks. The wound healed perfectly. In September, 1917, he was sent back to France. He had occasional attacks of vomiting before, but after the first long march in France he had an attack of vomiting which recurred every day for nine months, usually in the evening. He lost much weight and was much troubled by flatulence and severe pain in the epigastrium. He reported sick several times, but was always sent back to duty, and was accused of "swinging the lead." However, by October, 1918, his condition had become so bad that he could no longer carry on, and he was sent back to England. A month before admission he had an attack of severe pain, vomiting, and constipation, which kept him in bed for three weeks.

Condition on Admission.—The temperature was 99° F., pulse rate 80. Did not look very ill. Abdomen very flat and empty, moved on respiration. There was a small wound of entry of bullet over eighth left rib, close to its junction with the cartilage, and an exit wound in the left loin 2 in. from the spine. The left side of thorax moved less than the right. Nothing abnormal could be felt in abdomen. The area of resonance of the stomach extended very high, above the nipple in the axillary line. Breath sounds were very faint over the lower part of left chest, and were replaced by gurglings and borborygmi which had a distinctly amphoric note. He vomited occasionally, bile-stained or "coffee-ground" material, not stercoraceous. His bowels were completely constipated; he passed no flatus after any of several enemata.

Operation.—On December 14th, having made a provisional diagnosis of diaphragmatic hernia, I opened his abdomen by a left para-median incision just below the costal cartilages. The stomach could not be seen at all, and very little omentum. The transverse colon was drawn up very high. On passing the fingers up along the diaphragm they immediately slipped through a hole and came into contact with the pericardium; the hole readily admitted two fingers. The abdominal wound was temporarily closed by large through-and-through mattress sutures, while I resected portions of the seventh and eighth ribs, including part of their cartilages. One of the pieces removed had been fractured by the bullet. This incision gave very good access to the thorax. I was able to insert my hand high up into the chest, and pass it over the top of the distended stomach, which occupied practically the whole of the left thorax, except that part taken up by the pericardium. The lung was collapsed and very small, the greater part of the omentum was also in the pleural cavity. There were no adhesions and I was able to squeeze all the gas and fluid gently out of the distended stomach, and finally to return it to the abdominal cavity, together with the omentum, through the rent in the diaphragm, which was quite two inches long. In this I was aided by Captain Juett, who had reopened the abdominal wound and helped to pull the stomach and omentum gently back to their proper positions. There were no signs of strangulation or constriction, but the stomach was distended and appeared thickened. A few adhesions about the rent in the diaphragm extending to the omentum were ligatured and

divided, and a sponge was pushed through the diaphragm to keep the stomach and omentum out of the way. The hole in the diaphragm was then repaired by suturing the edges of the rent with catgut; over this was placed a layer of Lembert's sutures of catgut, and then three stout linen thread sutures. The abdominal and thoracic wounds were then closed in layers without drainage. Closure of the wound in the diaphragm was a little awkward owing to violent respiratory movements. Closure of the thorax gave rise to immediate improvement in the patient's condition, about which Captain Black, who was giving the anaesthetic, was getting somewhat uneasy.

After-History.—He vomited once when coming out of the anaesthetic. The pulse was rapid, 120 to 130, for the first twenty-four hours; the temperature went to 100° the day after operation. His bowels acted well after an enema on the 16th, and he passed flatus; taking food well. The note of December 18th reads, "Seems perfectly comfortable; respirations 20, pulse 72, temperature normal." On the evening of December 19th the temperature went to 100°. Next day the chest was aspirated, and 10 oz. of clear fluid withdrawn. On December 30th he was worried by tinkling sounds in his chest; these were synchronous with the apex beat, and were probably caused by the heart beating in the fluid. The chest was explored next day, and very little fluid found. About this time, also, he had a pericardial rub. But he looked very well throughout, and all his symptoms appeared to be due, directly or indirectly, to the collapsed lung. He has now been discharged for some months, and is to all outward appearances perfectly well. But his lung on the left side has not fully expanded. Probably after nearly two years of compression it is too much to hope that it ever will.

I am unable here to find any recent literature on diaphragmatic hernia. But before the war I believe very few cases of successful operation in long-standing cases had been recorded. Apart from partial hernia of omentum following recent wounds involving the diaphragm in France, I have only seen one case. That was in 1901 in Sydney, where an old-standing case following a wound of the diaphragm was diagnosed and operated upon by Mr. Clubbe, whose house-surgeon I was. I do not think he opened the thorax. The adhesions were very dense. He was unable fully to reduce the hernia, and the patient died. In my case I am sure I could not have reduced the hernia without opening the thorax, and I do not think one could repair the rent in the diaphragm from below. At all events it would be very difficult.

J. À B. DARVALL BARTON,
Major A.A.M.C.

Reports of Societies.

THE GENESIS OF DELUSIONS.

AT a meeting of the Medico-Psychological Association on May 20th, when Lieut.-Colonel JOHN KEAY of Aberdeen was in the chair, Dr. C. F. F. MCDOWALL (Ticehurst House, Sussex) read clinical notes on the genesis of delusions. Social and political tendencies, he said, were the outcome of an analysis, more or less critical, and believed by the individual to be impartial. A comparatively insignificant incident might attract attention and be the beginning of a prolonged mental conflict. The reasoning was not always logical nor the argument conclusive to people of other opinions, but the conclusion arrived at was final. Probably the presence of a hereditary taint was the most important factor in the preparedness of anyone to become mentally disturbed or actually insane. Delusions and hallucinations did not arise accidentally; they had a definite basis in the personal experience of the sufferer. It was the duty of the medical man to analyse the processes by which the abnormality had arisen, and to work back to what might be termed the "taking-off point." In men the underlying cause was often very quickly reached, but women were more reticent. The means at the disposal of the alienist was mental analysis—that is, an examination which would not only investigate the conscious problems of the patient but also bring to light the factors of subconscious origin. The functional condition was much more easily treated than the state in which the delusions or the hallucinations had begun to assert themselves. The mere elucidation of the cause was not enough to effect a cure; the patient should be taught to follow, in their logical sequence, all the ideas he had misinterpreted and misunderstood. Hallucinations did not occur in states of depression at an early stage of the malady; delusions developed earlier. He related cases showing a striking improvement and good nights immediately following the unburdening of the primal incident in the mental condition.

Sir GEORGE SAVAGE said that he had long ago applied the term "morbid mental growth" to the condition under consideration. It was now fully recognized that most delusions had a definite concrete starting point. Some morbid mental growths were merely inconvenient—an obsession which did not interfere with the prime work of life, an innocent morbid mental growth which destroyed nothing. A second form was that which modified utility, but still did not destroy; but the third and more severe kind invaded and destroyed faculties, as, for example, when a person had delusions of persecution.

Dr. HUBERT BOND thought that Dr. McDowall's paper offered a good deal of encouragement. The difficulty had been to determine the proper topic about which to talk to the patient, but there seemed now a prospect of instilling reason into the most, apparently, hopeless cases.

Dr. R. HUNTER STEEN emphasized, by the narration of a striking case, the fact that delusions were often in the form of wish-fulfilments.

Dr. CARSWELL (Glasgow), while agreeing that exploration along the lines indicated could not but be good, thought there would be a return to some of the old views. The morbid idea of the lunatic was not a fresh creation, but an undue prominence and an exaggerated form of a past experience, and to unearth the path by which the present mental state came about must be very helpful towards a cure. All must have felt the importance of persistently and quietly trying to explain to the patient the origin of his morbid ideas.

Dr. J. G. SOUTAR did not regard the method pursued by the author as psycho-analysis, but rather a simple investigation into the patient's life-history, which showed not only the genesis of the delusion, but also why it took that particular form. What was really needed was to know why a mind, previously sound, became, either suddenly or gradually, one suitable for the growth of hallucinations and delusions. It was this early stage at which recognition of the condition was so important. He thought many delusions were reflexes of the patient's past failures, which only came into dominance later when he was in a less robust state. The re-education of the patient was of the greatest possible value.

Captain PRIDEAUX thought the treatment employed by Dr. McDowall consisted in the use of emotional processes. The delusion often consisted in a rearrangement of the patient's emotional life, and e notional processes should therefore enter into the treatment.

Dr. MCDOWALL briefly replied.

Reviews.

CEREBRO-SPINAL FEVER.

THE excellent monograph on *Cerebro-spinal Fever*[1] by DRS. WORSTER-DROUGHT and A. M. KENNEDY contains the experience of a clinician and a well recognized pathologist engaged for more than three years in the care and investigation of the cases of cerebro-spinal fever at the Herbert Military Hospital, Woolwich. It is the outcome of patient and honest work, some of which has previously been published in papers contributed to this and other medical journals, though the bulk of it now comes before the profession for the first time in this attractive volume. In order to give as broad a survey as possible contemporary literature has been wisely utilized and the authors' personal results compared with those of other workers.

After some general observations on the geographical distribution, age, sex, and race incidence, the bacteriology of the meningococcus and its allied micro-organisms is considered, and full justice is paid to Mervyn Gordon's work; among 180 strains of meningococci tested by the type serums, 50 corresponded to his Type I, 97 to Type II, 22 to Type III, and 11 to Type IV, and the authors' results uniformly confirmed the statement that a case of the disease yields one type only of the meningococcus, and that the meningococcus recovered from the patient's

[1] *Cerebro-spinal Fever.* The Etiology, Symptomatology, Diagnosis and Treatment of Epidemic Cerebro-spinal Meningitis. By C. Worster-Drought, B.A., M.B., Temporary Captain R.A.M.C., and Alex. Miles Kennedy, M.D., late Captain R.A.M.C. London: A. and C. Black, Ltd. 1919. (Demy 8vo, pp. xii + 514; 56 figures, 8 plates. 30s. net.)

throat at the onset is always of the same type as that obtained from the cerebro-spinal fluid. Printing nowadays is not a rapid process, and no doubt this work was in the press before Gordon and Hine's report on the treatment of cases by monotypical serum was published earlier in the year. In the discussion on the predisposing causes it is pointed out that climate *per se* is not responsible for the presence of the disease in a particular country, as it occurs in almost every part of the globe, and that although extreme cold is not a direct cause of outbreaks, sudden variations in temperature appear to exert an important influence, as does a diminished rainfall. Overcrowding receives due attention, but J. A. Glover's conclusions might well have been included. The authors' experience agrees with the general consensus of opinion that known carriers seldom contract the disease, for among 140 carriers one only had symptoms even suggesting an abortive attack, and that the incubation period is short. As set forth in one of their preliminary papers, they show reason for the view that the meningococcus first passes into the blood, and in a few hours is carried to the meninges without definitely infecting the blood in the sense of causing a true septicaemia. The account of the symptoms deals first with those at the onset and then with those arising subsequently, and is illustrated by figures, especially of herpes. According to the course taken by the disease, six acute types, two special types (originally acute or subacute), two subacute, and two chronic types are described. The chapter on the complications is full of interesting matter, and attention is called to nephritis as a direct complication, care being taken, as has not always been done, to distinguish between nephritis antedating and that appearing after the onset of the disease. The sections on blood pressure and the cytology of the blood are enriched by charts and leucocyte counts from patients under the authors' care.

Lastly, the important chapter on treatment is written out of the fullness of personal experience, and, like the work as a whole, will be of great value to all who have to deal with this disease.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

IF at the end of five years an author finds it advisable to rewrite whole sections of his book, it may fairly be assumed that he has found reason to be dissatisfied either with the matter, or the manner of expression, of his previous thoughts.[2] Dr. CLIVE RIVIERE'S book on the *Early Diagnosis of Tubercle* has been widely read. His analysis of the various diagnostic methods which may be employed for the detection of the first signs of tubercle of the lungs is, in this new edition, even more full than in the first. He lays great stress upon the indications afforded by percussion. Impairment of resonance is not equally appreciated by human ears. Of all diagnostic methods that of percussion is the most variable in value, depending as it does not only on the skill of the percussor, but also on his perception of the sound produced. Especial attention is called in the new edition to the so-called Krönig's sign, or narrowing of the normal isthmus of resonance above the clavicles. This may not only be indicative of local change due to tubercle but may point to the commencement of disease from the hilus of the lung, especially if associated with bands of presternal and prevertebral dullness. This point is fully worked out in relation to disease both in the adult and the child. As in his previous edition, the author collates a very large amount of foreign literature on the subject, giving by far the larger share of such quotation to German writers; the reader must judge for himself of the importance to be attached to their authority.

The study of tuberculin as a means of diagnosis is very fully followed out, but it is hedged about with so many reservations that it cannot be said to have attained additional practical value. Roentgen rays, casting no shadow until a definite amount of density has been attained, do not render much assistance in detecting the earliest forms of local disease, but they are often of importance in revealing concomitant conditions in the chest. The later part of the book is devoted to the subject of tubercle in children. The progress of disease beginning in thoracic glands and slowly infecting the lung by way of the hilus is carefully traced. In such cases the *x* rays may supply information of the greatest value.

The student of tuberculosis problems will find Dr. Riviere's book as interesting as heretofore. The practitioner in search of guidance to the elucidation of a difficult case would probably look for a more concise and positive conclusion than is possible to express in a work of this description.

[2] *The Early Diagnosis of Tubercle.* By Clive Riviere, M.D., F.R.C.P. Second edition. London: Henry Frowde, and Hodder and Stoughton. 1919. (Cr. 8vo, pp. 314; 35 figures. 10s. 6d. net.)

TEXTBOOKS OF SURGERY.

WE have had occasion already to commend Mr. RUSSELL HOWARD'S *Practice of Surgery*[3] as a most excellent textbook. The stress of war has happily not prevented the issue of a second edition. Except for thorough revision and bringing it up to date in the surgery of war, there are no changes. In the preface we are informed that the revision has had for its object an endeavour to make the text clearer and more comprehensive. Undoubtedly clearness of statement and comprehensiveness of scope are very evident features of this work. It is precisely the best kind of book for the student, and we know that it is greatly used in schools other than that to which the author belongs. The tabular method and varieties of bold type specially loved by the student who remembers his subject by visualizing the very page of his favourite textbook are freely employed. We are glad to note that it is not overillustrated and that generally the pictures really help the reader to grasp the text, though it must be admitted a few are not convincing. The printing is clear, good-sized type. Proof reading errors are few; the word "or" near the bottom of page 671 has crept in without meaning, and there is a misspelling on page 581.

In the teaching of students it is always difficult to compel them to keep clearly before their minds the great fact that surgery, like every other science, is based on general principles. The earlier biological studies of the student are intended to serve as an introduction to the study of nature and its laws, but it is to be feared that the amount of detail demanded from the student occupies him so much that he loses sight of fundamentals. The difficulty of inculcating principles is said to be very great in the case of the Indian student, as his mind seems often too apt to grasp medicine and surgery very much in the same way as a penny-in-the-slot machine holds its wares. Mr. R. L. SPITTEL recognizes the difficulty in publishing his *Preliminary Course of Surgery*.[4] He has written the book, he says, with general principles always in view, and while it is "complete in itself," and "almost the entire field of general surgery has been covered, it still remains an introduction primarily for that class of student in India and Ceylon whose limited years of apprenticeship preclude him from the study of larger works." The subject matter is very well arranged, concisely written, and illustrated as fully as necessary. The pictures are almost entirely original, being taken from Mr. Spittel's clinic of Indian patients. The pictures of tropical diseases, such as yaws and leprosy, are interesting showing conditions well known in India but not often seen at home. We are satisfied that this book admirably meets the requirements enumerated by the author, and it can be recommended also to a much wider circle than Mr. Spittel modestly suggests.

MEAT INSPECTION.

IN *Meat Inspection Problems*,[5] Dr. WILLIAM J. HOWARTH treats his subject in a concise and lucid manner. The book contains five chapters and four appendices, and its scope will be evident from the titles of the chapters, which are: The development of meat inspection; general administrative problems; the tuberculosis problem as affecting cattle; the tuberculosis problem as affecting pigs and imported meat. The basis of the book is formed by the Milroy Lectures delivered by the author in 1917. He

[3] *The Practice of Surgery.* By Russell Howard, M.S.Lond., F.R.C.S.Eng. Second edition. London: Edward Arnold. 1918. (Med. 8vo, pp. vii+1244; 523 figures, 8 coloured plates. 25s. net.)

[4] *A Preliminary Course of Surgery.* By R. L. Spittel, F.R.C.S.Eng., etc., Surgeon to General Hospital, Colombo. Calcutta and London: Butterworth and Co. 1918. (Demy 8vo, pp. xv + 465; 111 figures. Rs 6.6 net.)

[5] *Meat Inspection Problems.* With special reference to the developments of recent years. By William J. Howarth, M.D., D.P.H. London: Baillière, Tindall, and Cox. 1918. (Demy 8vo, pp. viii + 143. 6s. net.)

urges with much cogency that the suggestions of the Royal Commission relating to the disposal of tuberculous carcasses might well be replaced by a more complete set of regulations. This would conduce to uniformity in the various areas and would lessen the friction between inspectors and traders. The carelessness and want of hygienic considerations shown in the handling of meat, especially in its transport by rail and van, are commented upon; but it is said to be difficult to suggest any official action which could be taken at the present time, since no specific regulation is ignored and the negligence arises in what may be regarded as "No man's land" between the abattoir or store and the butcher's shop. It is pointed out that a provision that the food should be handled in a cleanly manner could be incorporated in the regulations for the control of meat inspection.

The book is interesting, and the author shows great skill in marshalling his facts, which are drawn from a wide personal experience and from extensive reading.

NOTES ON BOOKS.

THE 1918 *Bulletin of the Ophthalmological Society of Egypt*[6] contains accounts of the work done by the society and the papers read to it during the year 1917. In a paper on the ophthalmic progress in Egypt during 1917 it is stated that there were thirteen permanent and four travelling ophthalmic hospitals in the country; over 100,000 patients were seen at these hospitals, and over 81,000 of them attended twelve or more times; about 30,000 operations for trichiasis or entropion were performed, and 19,000 for trachoma. Over 12,000 microscopical examinations were made in cases of conjunctivitis, and in 37 per cent. of the patients the gonococcus was found to be the causative organism, in 21 per cent. the Koch-Weeks bacillus. Over 4,600 patients were found blind in both eyes (that is to say, unable to count fingers at one metre); nearly twice as many were blind in one eye. The cause of the blindness was acute conjunctivitis in three-quarters of the cases, glaucoma in one-tenth. In cases of glaucoma trephining with iridectomy was the operation of election; over 3,400 cases of primary glaucoma were seen.

In a small volume entitled *The Wassermann Test*,[7] Colonel C. F. CRAIG has given a comprehensive account of the reaction commonly called by that name. Perhaps every pathologist will not agree with the author as to the advantages derived from using filter paper impregnated with amboceptor, but, apart from this, the methods described follow recognized lines. The chapters dealing with the interpretations of the results of the test and the factors which influence it are of general interest. The statement that an alcoholic debauch may temporarily convert a strongly positive serum into a negative one, for example, will come with surprise to many. A knowledge of the limits of the reaction is as important as a knowledge of what it can do, and both these aspects are fully dealt with. Information is also afforded of the effects produced by treatment on the reaction, on the methods of making a provocative injection, and the method and interpretation of the test as applied to the cerebro-spinal fluid. A description is also given of the colloidal gold test. The book is illustrated by numerous diagrams and tables, and gives a clear exposition of the present day knowledge of this branch of pathology.

Professor MORELLI of Pavia has written a full and interesting account of his treatment of gunshot wounds of the lungs by means of the "artificial pneumothorax" method[8] introduced in 1882 by his teacher Forlanini for the treatment of pulmonary tuberculosis. His statistics show that only 5 out of 110 patients treated by his method died; he gives details of 65 of his cases. The *rationale* and method of his treatment are fully set out, and his book should be read by all those interested in this difficult and contentious branch of surgical treatment.

[6] *Ophthalmological Society of Egypt* (founded in December, 1902) *Bulletin of 1918*. Cairo: Paul Barbey. 1918. (Med. 8vo, pp. 188.)

[7] *The Wassermann Test*. By Chas. F. Craig, A.M., M.D., Lieut.-Colonel Medical Corps, United States Army. Published with the authority of the Surgeon-General of the United States Army. London: H. Kimpton. 1918. (Med. 8vo, pp. 239; 3 coloured plates, 10 half-tone plates, 57 tables. 15s.)

[8] *La Cura delle Ferite Toraco-Polmonari: Pneumotorace Artificiale Toracentesi cura dell' Empiema*. By Professor Eugenio Morelli. Bologna: Licinio Cappelli. 1918. (Roy. 8vo, pp. 182; illustrated. Lire 12.)

For all its drab and tarnishing effect, the war has undoubtedly precipitated into writing verse many who would otherwise have died dumb poets. In *Musings of a Medico*[9] Dr. KENNETH ROGERS breaks silence and offers his readers a selection of pieces in which are enshrined the thoughts suggested to him by many familiar sights or sounds, as well as by incidents connected with the war. His pen shows a happy facility that many might envy, coupled with a gift for combining the novelties of science with older thought that few possess.

DR. HUBLEY R. OWEN has had large experience in teaching the firemen and policemen of Philadelphia the principles and practice of first aid, and has published his lectures in a substantial, clearly printed, fully illustrated volume. While his book, *The Treatment of Emergencies*,[10] is primarily intended for American students of first aid, it may well be commended in this country. The chapters on fractures, bandaging, and transportation are particularly good. In that on fractures no attempt is made to teach any other methods than emergency ones with materials always at hand. The various applications of roller and triangular bandages are clearly figured and described. Very numerous photographs, specially taken in the chief fire stations of Philadelphia, are a most interesting feature of the chapter on "transportation," and appear to be a very complete presentation of life-saving and emergency work. This is essentially a practical book, with the necessity for clear comprehending of principles kept ever before the reader.

The Great War Brings it Home[11] is a work in which the author endeavours to show the necessity for getting back once more into touch with nature, civilization under modern economic and industrial conditions having now reduced us to a nation classifiable no higher than C3. Life must be simplified, made wilder and hardier; and Mr. HARGRAVE, a well known scout master, has worked out a scheme for doing this and enabling us all to live—at times—the outdoor life. We are in sympathy with many of his contentions, and, in spite of all we hear about the dullness of village life, there must be very many dwellers in cities who nurse at heart a preference for the country and for the type of life there advocated by Mr. Hargrave.

[9] *Musings of a Medico*. By Kenneth Rogers, M.D.Lond. London: Erskine Macdonald, Ltd. (Cr. 8vo, pp. 72. 3s. 6d. net.)

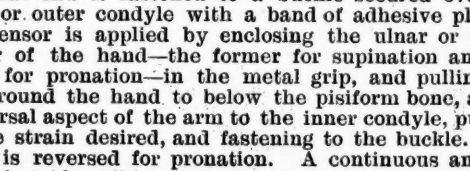
[10] *The Treatment of Emergencies*. By Hubley R. Owen, M.D., Surgeon to the Philadelphia General Hospital, etc. Philadelphia and London: W. B. Saunders and Company. (Post 8vo, pp. 350; 249 figures. 8s. 6d. net.)

[11] *The Great War Brings it Home*. By John Hargrave (White Fox). London: Constable and Co., Ltd. (Fcap. 4to, pp. xvi+367; illustrated. 10s. 6d. net.)

MEDICAL AND SURGICAL APPLIANCES.

Tensor Apparatus for the Forearm.

MR. J. IRWIN PALMER writes: A simple and effective apparatus to assist in the restoration of supination and pronation in wounded or stiffened joints of the forearm is now in use at the Special Military Surgical Hospital, Tooting. This instrument I have called a tensor, whereby a continuous pull may be kept up for any required period; it consists of a hook-shaped plate to fit over and partially enclose the ulnar side of the hand for supination, the plate being modified to embrace the radial aspect for pronation. A strap, twenty-four inches in length, is attached; the



central portion is of strong rubber webbing, and the proximal end is fastened to a buckle secured over the inner or outer condyle with a band of adhesive plaster. The tensor is applied by enclosing the ulnar or radial border of the hand—the former for supination and the latter for pronation—in the metal grip, and pulling the band round the hand to below the pisiform bone, across the dorsal aspect of the arm to the inner condyle, putting on the strain desired, and fastening to the buckle. The spiral is reversed for pronation. A continuous and not uncomfortable pull is attained, and the use of the hand is scarcely impeded. With a modification it is useful in flat-foot or where a valgus or varus deformity requires correction. In torticollis with a cap fitted round the forehead it is effective, as it is in many conditions where a continuous opposing strain is desired. My designs for these appliances have been most ingeniously carried out by Messrs. Allen and Hanburys, of Wigmore Street, W.

PORTRAIT OF SIR CLIFFORD ALLBUTT.

As announced a few weeks ago, Sir Clifford Allbutt has accepted an invitation to allow the profession to present to him a portrait of himself painted by an eminent artist. The Council of the British Medical Association has taken the initiative in the matter because Sir Clifford Allbutt has been President of the Association during the years of the war, and will preside over its Annual Meeting in Cambridge next year. The esteem due to Sir Clifford Allbutt's attainments and the warm affection inspired by his character are such that very many, both within and without the Association, will desire to share in this tribute to one whose career has reflected so much honour on medicine in England. This desire will not be limited to his many pupils, first in Leeds and afterwards in Cambridge, nor to the members of the Association, and subscriptions are invited from all members of the profession. The amount is limited to one guinea, and the Treasurer of the British Medical Association, 429, Strand, London, W.C.2, is prepared to receive subscriptions of one guinea or less.

The following is a further instalment of the list of subscribers; other subscriptions, received this week, will be acknowledged in an early issue.

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Dr. J. W. Russell (Birmingham)
Dr. Gowan Saunders (Cannes)
Mrs. E. N. Saywell (Cambridge)
Dr. C. T. Scott (Market Harborough)
Dr. W. W. Shrubshall (Brighton)
Dr. Charles Slater (Tunbridge Wells)
Dr. W. A. Smith (Clifton, Bristol)
Dr. James Sommerville (Abernethy)
Hon. Lieut.-Colonel T. E. Knowles Stansfield, C.B.E., R.A.M.C. (Bexley)
Dr. R. de S. Stawell (Shrewsbury)
Major E. G. Stocker (Salisbury)
Professor Ralph Stockman (Edinburgh)
Dr. H. C. Strover (Sandy, Beds)
Dr. J. A. Thornton (Forest Gate)
Dr. S. Verdon-Roe (Wandsworth)
Dr. James Watson (Dormans Park)
Dr. W. Welsh (Handsworth)
Dr. W. H. White (London)
Dr. James Wigmore (Bath)
Surgeon General J. O'B. Williams, R.N. (Ottery St. Mary)
Dr. A. E. Wilson (Sydenham)
Dr. T. N. Wood (East Bergholt)
Captain E. W. N. Wooler, R.A.M.C. (Leeds)
Surgeon Commander A. Woollcombe (Devonport)
Dr. D. Yellowlees (Kilmun)

CORRECTION.—In the list of subscribers given in our issue of June 7th the name of Dr. Victoria E. M. Bennett (London) was incorrectly printed.

THE INDIAN MEDICAL SERVICE.

LONDON DINNER.

THE dinner which the officers of the Indian Medical Service have been accustomed to hold every year in London was intermitted during the war. The custom was resumed on June 11th, when Colonel Sir P. J. FREYER, K.C.B., I.M.S. (ret.), was in the chair. The guests were the Right Hon. E. S. Montagu, M.P., Principal Secretary of State for India; Sir Norman Moore, Bt., President of the Royal College of Physicians; Lieut.-General Sir H. V. Cox, K.C.B., Military Secretary, India Office; Dr. James Neal, Deputy Medical Secretary, British Medical Association; Mr. Austin Low; the Editor of the BRITISH MEDICAL JOURNAL, and a representative of the *Lancet*.

The Chairman.

Sir PETER FREYER, after giving the toast of the King, proposed that of the Indian Medical Service. Though many years, he said, had elapsed since his retirement he retained his affection for the Service, and was proud shortly after the outbreak of war to be appointed consulting surgeon to the Indian hospitals at Brighton, where he was again enabled to work with his brother officers for the benefit of wounded sepoys. No episode in the history of the I.M.S. reflected greater credit upon it than the satisfactory way in which these hospitals were conducted and the devotion to duty displayed by the medical officers. His pleasure in presiding at the dinner was enhanced by the fact that the chief guest was the Secretary of State for India; never in the history of the annual dinners had there been a guest more welcome and more honoured. Since his advent to power Mr. Montagu had displayed a friendly interest in the Indian Medical Service and had approached the consideration of its grievances with sympathy. He had already redressed some of the most glaring, and had promised to do much more. Mr. Montagu was a man of courage and determination in pushing through reforms, and if he carried into effect those improvements in the Service adumbrated in his public speeches—as no doubt he would—the Indian Medical Service would be replaced in the proud position it formerly held—that of the most popular medical service under the Crown. From that position in recent years it had sadly fallen; in the Service, and in the medical schools and universities which prepared candidates for the medical service of the Crown, a spirit of pessimism had prevailed. The limit of the endurance and patience of the Service and of the medical profession had been reached, but since Mr. Montagu took the matter in hand pessimism had given way to optimism. The work the I.M.S. had done in and for India, since the days of Gabriel Boughton (1638), had been inestimable. Through its influence hospitals had been gradually developed in India, so that at the present time hundreds of large hospitals and thousands of subsidiary hospitals were scattered over the length and breadth of the land. In these hospitals tens of thousands of important surgical operations were performed, so that it was no exaggeration to say that in many of them there were officers of the Indian Medical Service performing annually single-handed more surgical operations than were performed by the whole staff in many of the great London hospitals. During the last

seventy-five years, concurrently with the spread of hospitals, medical schools and colleges had been established through the enthusiasm of officers of the Indian Medical Service, from whose ranks the professorial staffs had been mainly drawn. In these schools and colleges thousands of Indian medical men had been educated, becoming keen, well qualified practical physicians and surgeons, who competed with their former teachers, and the Indian Medical Service generally, for that private practice which was formerly one of the greatest attractions of the Indian Medical Service. Whatever fate the future held in store for that Service, he personally believed it would flourish while the British Raj existed, for it was the system most economical, most efficient, and most suited to the requirements of India, both from a civil and a military point of view. In conclusion he gave the toast of "The Indian Medical Service," coupling with it the name of Mr. Montagu, who, though the Service had not the honour of numbering him among its members, was yet to be regarded as the physician sent to heal its infirmities.

The Secretary of State.

Mr. MONTAGU, in the course of a sympathetic reply, said that though, strictly speaking, he had no right to respond to the toast, he gladly did so because he was convinced that the welfare of India was bound up with the welfare of the Indian Medical Service; that in fact, as he had said on another occasion, the Indian Medical Service was the pivotal Service. What were its wants? First of all, if it was to do its great work it must be a contented service. A man who entered and worked in it must feel assured that his interests were safeguarded, and be able to rely on those whose duty it was to look after his interests and those of his Service. He must be assured of adequate pay, and the minimum necessary improvements in pay had been promulgated during the last few months. The next point was that the status of the Service should be satisfactory; to attain this there must be, in the first place, proper access for the representatives of the Service to the Government of India and to the provincial governments, so that authoritative scientific opinion should be directly expressed; and, secondly, the matter of the relative claim to promotion and prestige of the I.M.S. and the R.A.M.C. in India should be so adjusted that an end might be put to a system under which merits and faults were wrongfully attributed. Another point was that the candidate for admission to the Service should feel in a position of security with regard to his prospects of promotion and the opportunities for attainment of experience. This was a primary necessity. There had been talk of curtailment of the right to private practice and of the separation of the civil and military services of India, but the usefulness of the I.M.S. in India depended on opportunity for diversity of experience. No man would be hampered in his private practice so long as it did not interfere with his duties to the Government, a principle which the Indian Medical Service was not likely to forget. Associated with opportunities for practice there must be opportunities for study; there must be study leave to visit on favourable terms the centres where the most recent achievements of medical science could be witnessed, and this implied a large enough leave reserve. In India itself there were needed, first, greater opportunities for research, and secondly, proper equipment for practice. Not long ago he had given to the House of Commons figures of the great influenza epidemic of last year, which had caused six million deaths in India and withdrawn from their daily avocations two-thirds of the population. A problem presented by such events as these could only be investigated in India, in order to ascertain what were the conditions of that country which had, so to say, particularized the infection. Research institutes with their libraries and attached hospitals must be established either by the Government, or by private munificence, or by both means. With regard to practice, he considered that there was ample room for urging greater expenditure on scientific equipment for the station hospitals. When these reforms had been achieved, then the Indian Medical Service would be on the high road to contentment. "I myself," said Mr. Montagu, "am doing my best to bring these things about, for I fully realize that unsatisfied promises cannot produce satisfaction. But the first of scientific virtues is patience. The labours of the committee over which Sir George Makins presided have produced important results, and the report of Sir Verney Lovett's committee has been received and is under consideration. Things are in train, and I promise you that I will do my best to solve the problems presented to us."

Mr. Montagu, in his temporary capacity as a member of the Indian Medical Service, seemed to express very accurately the aspirations of that Service, for every point he made was punctuated by applause.

The Chairman of the Naval and Military Committee of the British Medical Association.

In response to a call by many of the officers present, the CHAIRMAN invited Lieut.-Colonel R. H. Elliot, I.M.S. (ret.) (Chairman of the Naval and Military Committee of the British Medical Association), to speak.

Colonel ELLIOT said that, though the call was unexpected, he was glad of the opportunity to say some things to those of his brother officers still in the Service. First and foremost, he desired to express the debt of gratitude the Service owed to Mr. Montagu and to Sir Havelock Charles. He had received many letters from India and from this country which showed, amongst other things, that the work of the two gentlemen was not fully appreciated or understood. There was often doubt where there should be trust, and suspicion where there should be confidence. His position had given him every opportunity of knowing what had been going on, and he would ask the officers of the Service to exercise a little patience and to trust those who were working for them. Sir Havelock Charles had been the inspiration of the reforms recently promised. The I.M.S. had no more loyal friend than the Surgeon-General at the India Office, but his path had been thorny and difficult. His efforts, however, would have been fruitless but for the sympathy and statesman-like grasp of the position shown by Mr. Montagu. Colonel Elliot said that in his dealings as a representative of the British Medical Association with the Secretary of State he had been impressed by his sympathy, kindness, and courtesy, and his genuine desire to appreciate the position of the Service and to help its officers. Mr. Montagu, in his replies to the deputation at the two interviews it had with him, took the claims presented one by one, and showed that, so far as lay in his power, he was determined to satisfy them, and so build up a happy, contented, and prosperous service. "So impressed," Colonel Elliot continued, "was I with the way he had met us, that I gave my promise that we would help him in turn. Many of my correspondents are suggesting that we are going too slow, but let me remind you of certain points. The Secretary of State has no easy task before him, and we should ill requite his attitude towards us if we added to his difficulties instead of striving to lighten them. At his instigation a Commission on the Medical Services has recently toured the whole of India, and its recommendations are now before the Government of India; we hope soon to learn what action that Government proposes to take on the recommendations made to it. We must wait patiently, we must give Mr. Montagu the time and the opportunity to make good his promises to us. Of one thing I am absolutely convinced, and that is that he will loyally fulfil those promises in the letter and in the spirit. He has made it clear to us from the start that he is not all-powerful—I only wish he were—but we must give him a fair chance first, and if he fails to satisfy us, I am sure it will be through no fault of his own. If we were to take any other course, and to act as some of my correspondents have suggeststed, we could neither ask nor expect him to trust us again. We have a sympathetic Secretary of State; we have a Surgeon-General at the India Office who is one of ourselves to the backbone; we have a Director-General in India than whom there has probably never been a better for such a time; and last, but not least, we have behind our cause at home the British Medical Association. I would ask each one of you, when you go out, or write out to India, to ask our brother officers out there to exercise patience and trust. There are grousers in every service; I am a grouser to-night; my grouse is against the officers who say the British Medical Association has done nothing for them, and who have never read the JOURNAL to find what we have been doing. For the last six years the Association has put in steady unwearying work, making sure of its ground, consolidating every position, and advancing steadily if slowly to the end

it has in view—namely, the establishment of the Service on a proper footing. The debt of the Indian Medical Service to the British Medical Association is one it cannot easily repay."

Officers Present.

The officers present were:

Major-Generals: Sir R. Havelock Charles, G.C.V.O., T. Grainger, C.B., G. F. A. Harris, C.S.I.

Colonels: C. W. Carr-Calthrop, W. W. Clemesha, C.I.E., G. W. P. Dennys, C.I.E., D. E. Hughes, G. B. Irvine, C.B., C. A. Johnston, C.B., D.S.O., C. C. Little, J. J. Pratt.

Lieut.-Colonels: A. Alcock, C.I.E., W. G. P. Alpin, J. Anderson, C.I.E., F. E. Baines, Sir C. H. Bedford, Sir W. Buchanan, K.C.I.E., G. H. Bull, W. H. Burke, J. T. Calvert, C.I.E., D. G. Crawford, R. H. Elliot, S. H. Henderson, C. T. Hudson, C.M.G., J. G. Hulbert, S. P. James, E. R. Johnson, W. Glen Liston, C. H. L. Meyer, T. R. Mulroney, E. A. R. Newman, C.I.E., A. H. Nott, T. S. Novis, E. S. Peck, J. W. F. Rait, A. Street, T. H. Sweeney, C.M.G., T. H. Symons, O.B.E., G. Waters, A. C. Younan, E. W. Young.

Majors: W. A. Justice, J. G. B. Shand, C. Thomson, F. Norman White, C.I.E., R. E. Wright.

Captains: L. A. P. Anderson, G. G. Jolly, R. V. Martin, J. S. S. Martin, W. C. Spackman, F. Stevenson.

INSUFFICIENTLY TRAINED NURSES.

[FROM A CORRESPONDENT.]

THERE is a danger that when the Nurses' Registration Bill is enacted we shall rest satisfied with the thought that all has been done that is necessary to secure efficient nursing. Registration will enable us to select, and may draw better attention to the need for selection, but the resolution passed by the Representative Meeting in 1914—

> That this meeting views with concern the increasing number of insufficiently trained nurses, and instructs the Council to call upon the Government and the other authorities concerned to take steps to remedy this evil

—is as important to day as it was then. It drew attention to the serious position that is arising from the introduction to the nursing profession, through various portals, of a very large number of women who, on account of this insufficient training, are not fitted for the important duties and serious responsibilities they are called upon to undertake. It is quite time that the public that employs them, in whatever capacity, appreciated this fact.

Nurses employed in the inspection and treatment of school children, in the treatment of tuberculosis, in fever hospitals, in maternity and child welfare centres, as health visitors, and, lastly, but by no means least, as district nurses, are still too freely recruited from the ranks of the inefficient. This increases the risks to those least able to bear them—the sick poor—and by interfering with the successful conduct of these services endangers the progress of reforms which, in the interests of the public health, we all consider necessary. Sick nursing in the homes of the poor is carried on under such difficult conditions, and requires so much resourcefulness, that it calls for the greatest possible degree of that training which gives ability and adaptability. If this is true in the town it is still more so in the country, where the nurse is of necessity more isolated, and her work more responsible; also because the country practitioner is now competent and willing to undertake much more than formerly in the way of surgery and treatment that requires the assistance of a skilled nurse, but he should and will undertake it only with assistance on which he can thoroughly rely. If he does such work it means a considerable relief to the already much overworked hospitals—a relief which, by the way, may be increased in another direction, because when, and only when, there exists an adequate service of properly trained district nurses hospitals will be able to send out many patients considerably earlier than they otherwise could.

The need for exact knowledge and technical skill on the part of the nurse increases with every advance of medicine. The aim of social reformers is to make the most efficient medical treatment available to even the poorest members of the community. This was the purpose of the Insurance Act, but it will not succeed if the doctor is hampered in his work by the want of proper help.

But there is an indirect as well as a direct mischief consequent on the employment of inefficient nurses. A nurse who has had a year's or even a few months' training (and that perhaps not in a hospital), after working for a year or so as a district nurse is apt to get an exaggerated idea of her own competence and value; she may go to one of the too many nurses' homes that do not ask many questions, and from there pass out to the world as a properly trained nurse. The doctor telephones for a nurse suitable for an operation case, a case of pneumonia, a troublesome mental case, it does not matter which, she is just the nurse for such a case. Here is the danger to the patient, even the rich, and the danger to the medical man, both of whom are relying on the competence of the nurse.

Harm accrues also to the nursing profession itself, just in the way that any class is visited with the sins of its worst members—loss of respect and authority, want of confidence, loss of social position, less remuneration, are among the injuries that result from this unhealthy competition.

The blame for this state of affairs rests largely with the various public authorities and nursing committees concerned. They employ these nurses for various reasons, partly from motives of economy, partly because they do not realize the consequences, and partly because the supply of properly trained nurses is not sufficient. The want of money can only be cured by larger contributions from the National Exchequer—this is promised—from contributions by local authorities, including the guardians, to district nursing associations, and from the charitable.

It rests with the medical profession to make the public realize the evil effects of inefficiency. Often when this question is discussed the answer is that "the doctors are all very well pleased with our nurses, we never get any complaints"; or "Dr. X. never finds fault with Nurse G." One cannot, for obvious reasons, expect practitioners to report to the various employers, the illustrating instances that at times come to their notice; but collectively and without hurting any employee and without any personal discomfort, they may through their Division or Branch make authoritative representations, and it becomes the duty of the profession to inform these bodies what it considers they ought not to do, and what they might do.

One of the regulations of a county association with regard to district nurses reads: "All nurses to have had at least one year's training, either at a hospital or at a training home." The committee says that it cannot get fully trained nurses, and many others say and do the same. Intending nurses naturally feel it quite unnecessary to go to the expense and trouble of a full training when they can get equally good employment without it. In this way a vicious circle is formed. Somebody must break it; clearly the nurses will not, often cannot, so that it rests with the central and local authorities. They can at once offer much better salaries for properly qualified nurses. The supply cannot be made at once, but if it is at once made clear that better conditions are, and will continue to be, offered to more efficient nurses, the supply will surely come. At present many nurses are paid far too little.

One of the great difficulties that confronts a would-be nurse is the cost of training. County councils have the power to give grants or scholarships for nursing, but those who do, so far as we are aware, only do so for six or twelve months' training, thus giving official encouragement to under-training. These grants should be for the full three years.

Nurses employed in the various ways referred to above are apt, after a time, to find the work tedious, and to get rusty. This might be prevented and the service much improved by a scheme providing study leave. Two or three months' residence and work in a general or cottage hospital every other year would be a great boon, and it would give the hospital nurse too an opportunity of a change.

Conditions might be improved and life made brighter by the institution in each county of nurses' social unions like that which is run with so much success in Somerset. Lastly, a scheme to provide pensions is badly needed. A nurse's actual working life is so short, and her opportunities for making provision for her later years are so poor, that some sort of outside help is badly needed.

THE British Science Products Exhibition, organized by the British Science Guild, is being arranged at the Central Hall, Westminster, and will be open from July 3rd to August 5th.

British Medical Journal.

SATURDAY, JUNE 21ST, 1919.

THE FUTURE OF THE VOLUNTARY HOSPITAL SYSTEM.

ON June 3rd the Ministry of Health Bill received the Royal assent. Dr. Addison stated on May 28th in the House of Commons that immediately the Ministry of Health Bill became law, it was intended to set up the consultative councils, including one to advise upon the medical and ancillary services. He undertook not to submit any proposals to the Government for the development of local health services until he had obtained the advice of the consultative councils.

Section 4 of the Ministry of Health Act gives power to set up, by Order in Council, consultative councils to advise and assist the Minister in matters affecting the health of the people. It is understood that there will be, to begin with, four councils for England, to advise respectively on medical and allied services, on local health administration, on the insurance work of approved societies, and on general health questions. The members of each council will probably not exceed twenty in number; they will be appointed by the Minister, who is about to invite the chief medical bodies and organizations to submit nominations for appointments to the Medical Advisory Council. The number of persons thus nominated will be much larger than the number of persons proposed to be appointed to the Council, and it is, we understand, the intention of the Minister to refer this long list to a small medical board, to advise him in making the actual appointments. It would appear that the members of this small selection board, who have been nominated by medical bodies concerned, will not necessarily be ineligible for seats on the Advisory Council.

Our parliamentary correspondent's statement on May 31st—that the question of State aid for hospitals with a limited measure of State control had not as yet been considered by Dr. Addison—is in accord with all previous utterances, and with the statement of Viscount Sandhurst, the Government spokesman in the House of Lords, when he said that the bill conferred no power on the Minister to deal in any way with voluntary hospitals, and that under it the Ministry of Health would have nothing to do with hospitals. Nevertheless, there can be no doubt that the Ministry of Health will be bound at an early date to inquire into the adequacy of the existing provision of institutional treatment. An examination of this matter must include investigation of the present scope and functions of Poor Law infirmaries, and this, again, raises the whole question of the Poor Law, which the Government has pledged itself to deal with, subject to the necessary observation that the unravelling of the relations of the Poor Law to other departments of central and local administration must be a lengthy process. Before this, however, we may assume that the voluntary hospital system will have been thoroughly studied anew by the medical profession, and that the present managers of the voluntary hospitals will have much to say before any final decision is reached by the Government or Parliament.

It is significant that Mr. Wade Deacon, chairman of the Liverpool Royal Infirmary, speaking at a recent conference held by the British Hospitals Association to discuss the relation of the voluntary hospitals to the State, declared that the day for the voluntary hospital system, pure and simple, was over; it could not, he said, meet present requirements.[1] Sir Napier Burnett predicted that in the near future the country would demand that hospital facilities should be made available for a greatly increased number of people; this must necessarily lead to modifications of the present voluntary hospital system. Lord Knutsford put the matter epigrammatically: the hospitals, he said in effect, welcome State aid; they have no fear of State inspection; but they are afraid of State control.

A year ago Sir Bertrand Dawson, discussing the future of medicine in his Cavendish Lecture, argued that an efficient medical service could not be self-supporting if organized measures for preventing and curing disease were to be within the reach of all members of the community. "Is it not obvious," he said later on, "that no teaching hospital could provide the equipment and staff necessary to maintain such a service at full efficiency unless it were helped by endowment or State aid? State aid on a small scale is in being; the Education Ministry gives grants for students and nurses, the Local Government Board gives grants to special departments like venereal clinics, and the Medical Research Committee assists research. No doubt, too, the Health Ministry, if formed, would subsidize health clinics. Such a policy of State subvention has the merit of being elastic, and is compatible with the continuance of voluntary support combined with adequate central control."

In this country the voluntary system has been inseparably bound up with the system of attendance by honorary visiting medical staffs, and it seemed at one time that the two things must stand or fall together. But recent legislation has brought this and many other things into the field of speculation and debate. Recognizing the trend of events, the Representative Body of the British Medical Association in 1910 instructed the Council to prepare a report on the advisability of members of voluntary hospital staffs being paid for their services. The matter was gone into very carefully, and the findings of the Council were embodied in a special report submitted to the Annual Representative Meeting in 1913. In order to see the thing in a practical light it was felt that the first step should be to ascertain what effect the system of payment for hospital staffs in vogue in certain other countries had had on the status of the medical profession in those countries. Here difficulty arose owing to the impossibility of comparing the position of British hospital staffs with that of their colleagues abroad, the purely voluntary system being a peculiarly British institution. Nevertheless, the Council, after weighing such information as appeared to be relevant, was able to draw certain conclusions. It found that State subsidy by no means necessarily implied payment of the visiting staff, save in the form of a mere acknowledgement; that in Continental countries the holding of a hospital appointment offered sufficient advantages to attract the best men; and that while it could not be said that any existing system of State payment in other countries had lowered the status of practitioners accepting such payment, it by no means followed that a change from the voluntary to the paid system would not seriously affect the position of the profession in this country. Finding no general desire

[1] BRITISH MEDICAL JOURNAL, May 24th, 1919, p. 647.

among members of hospital staffs to change their position, and feeling uncertain as to the effect of such a change on the future of the hospitals and their staffs and on the status of the profession, the Council recommended the Representative Body to express the opinion that the voluntary system should be maintained as long as possible, and that to this end the services of the visiting medical staff should continue to be given on an honorary basis.

This recommendation was adopted by the Annual Representative Meeting in 1913. Four years previously, however, the Representative Body had expressed the view that the services of the medical profession should not be given gratuitously to patients maintained by public funds. At first sight the two principles seemed inconsistent. The difficulty was indicated in a memorandum by Dr. H. J. Campbell, chairman of the Hospitals Committee, on the position of voluntary hospitals under the Insurance Act, and it was discussed in the Annual Report of Council for 1916–17. On the one hand there was the desire to perpetuate and support the voluntary system, and on the other to establish and maintain the principle that the State should pay for medical attendance of persons for whose maintenance it is responsible. It seemed to the Council that these policies could be run in double harness by adopting the principle laid down in the Association's model scheme for the treatment of tuberculosis approved in 1914. The aim of this scheme was to enable voluntary hospitals to conform to the principle that medical services should not be given gratuitously to patients maintained by public funds, and at the same time to preserve their voluntary status in purely charitable work. The Council made a recommendation to this effect, and it was adopted by the Representative Body in 1917.

Several forces combine to make it probable that the voluntary hospital system will be reshaped in the near future. There is the movement to provide very much larger institutional facilities for the treatment of disease; in this the Ministry of Health will doubtless come to take the leading part. There are also the proposals for reorganizing the system of clinical teaching, outlined in Sir George Newman's memorandum on medical education in England. Following with some modifications the report of the Royal Commission on the University of London, Sir George Newman recommended the appointment of adequately paid professors of clinical medicine, surgery, and obstetrics, to devote the greater part of their time to teaching and research; they would be primarily teachers and only in a minor degree practising consultants. Since it is postulated that a professor of this kind "shall have control of wards (50 to 100 beds), an out-patient department, and ample laboratory accommodation in immediate proximity to the wards," his duties would clearly make him an officer of the hospital as well as an officer of the medical school. This raises a question on which there has been as yet no adequate public discussion. The Royal Commission knew that a hospital was an essential part of a medical school, and it desired that medical schools should eventually become constituent colleges of the university, for "if there is to be one university, all institutions belonging to it must for practical purposes be incorporated in it. They must themselves constitute and be the university. The only difference we can admit in the case of the medical faculty is that, as a large part of the work must be carried on in close connexion with hospitals in which the duties of the staff extend far beyond their educational functions, it will be the medical schools and not the hospitals which must be incorporated in the university, and arrangements will have to be made between the university and the governing bodies of the hospitals with respect to the use of the hospitals for the purposes of medical education and research." But even so this would give the hospitals accepted as university hospitals a special status favourable to the principle of voluntary administration. The Royal Commission recognized that it would be impossible for the university, such as it contemplated, "to absorb and continue the whole of the London medical schools to do their present work," but it is common knowledge that there are hospitals in London (some of them possessing considerable endowments) which would be willing to come into a university scheme.

The idea of a whole-time salaried staff, centred in a professor whose primary function is teaching, has appealed to many teachers and members of the governing bodies of the hospitals, and in London and elsewhere there have been proposals for putting the plan into action at certain of the larger hospitals. Three months ago the governors of the London Hospital sanctioned an experimental scheme, unanimously approved by the medical staff, for the appointment of whole-time salaried officers to fill vacancies in the honorary medical staff. A brief sketch of these proposals was given in the JOURNAL of March 15th, p. 319. So far the whole-time hospital teaching unit awaits the test of experience. It is believed that opportunities for an extended trial may be afforded by grants obtained through the Board of Education, which would be prepared to assist in this way such medical schools as adopt a scheme conforming to the Board's requirements.

The general conclusion must be that from one cause and another the system of attendance by honorary visiting staffs, no less than the voluntary hospital system itself, can scarcely expect to pass unaltered through the period of reconstruction now before us.

THE NATION'S DEBT TO PHYSIOLOGISTS.

ELSEWHERE in this issue we publish a summary of Professor Starling's Oliver-Sharpey lectures, which were devoted to the history of our national food policy during the war. Professor Starling, as chairman of the Food (War) Committee of the Royal Society and subsequently one of the scientific advisers of the Food Ministry and British representative upon the Inter-Allied Scientific Commission, has been fully cognizant of events upon which it is no exaggeration to say the fate of the empire depended. The story he has to tell is of the greatest interest.

In the earlier days of the war physiological aspects of the food problem did not receive the official attention they deserved, and there was a time when it seemed doubtful whether the considered opinions of scientific men would prevail. This JOURNAL was insistent in pointing out the nature of the danger ahead, and not the least of the claims of the late Viscount Rhondda upon the nation's gratitude is the willingness he displayed to be guided by scientific opinion. It is not too wild a paradox to claim that the issue of the war was placed beyond doubt by decisions taken in London in the winter of 1917-18 which had no direct reference either to military operations or munitions of war.

Official Germany realized much earlier than did our politicians that the war would be won by "calories," and formulated an offensive and defensive plan of operations; this plan was, however, essentially faulty. Both in the matter of rationing and in the maintenance of farm stock the German Government failed to apply the correct scientific principles. Not a few

influential persons in this country were anxious to follow the Germans in the wrong path, and only those who were behind the scenes have any idea of the bitter struggle that had to be faced before the principles which, as explained by Professor Starling, now appear axiomatic were accepted by those who had the means of enforcing them.

All the world now knows that the complete collapse of the enemy was, in final analysis, due to the failure of food supplies. What the average man does not know is that had the efforts of the scientific men in this country been frustrated, had there been a little more delay in following their advice, neither mountains of shells nor the professional abilities of the allied commanders would have secured the crowning mercy of November 11th.

In the work of estimating the actual position in this country and the needs of its inhabitants, the Food (War) Committee of the Royal Society provided an excellent illustration of team work at its best. Not only were frequent opportunities afforded for the interchange of ideas between workers expert in the physiological, clinical, statistical, and agricultural methods of research involved, but advantage was taken of the opportunities incidentally provided by the war-time circumstances of members to obtain data of general service. For instance, important information was derived from the investigations made for army purposes by Lieut.-Colonel E. P. Cathcart and his associates, while the dietetic studies carried out by Captain M. Greenwood to assist the Ministry of Munitions were also made available. Particular investigations of this kind, co-ordinated with the miscellaneous information gathered in a wide field by the late Sir William Thompson and by Professor Starling, in their capacities of scientific advisers to the Ministry of Food, were of great value. Many other examples could be given—the Committee, indeed, acted as an efficient clearing house for nutrition researches.

It is not to be expected, perhaps not even to be desired, that those who saved the nation in a crisis of her history should receive the popular applause which is reserved for the military and political heroes who—in spite of one another—"won the war," and are now, as Mr. H. G. Wells long ago expected, discussing the "discipline and details of the battle and each other's little weaknesses in the monthly magazines." What was done was done in obedience to the law of all scientific thought, the rule of scientific honour, which is immutable whether the material issue be great or small—namely, to assemble exact data and then to reason strictly from premiss to conclusion. Obedience to this rule can preserve us amidst the less dramatic but not less real perils which cluster around the national path now. The only guerdon men of science expect or would value is the knowledge that scientific principles will continue to inform, not one, but all departments of public administration.

THE HEADS OF THE ARMY NURSING SERVICES.

THE Army of the Rhine has just had the pleasure of a visit from the two Matrons-in-Chief of the Army, Dame E. H. Becher, G.B.E., and Dame E. M. McCarthy, G.B.E., and did its best to make these two distinguished ladies understand how greatly their work for the army during the war was appreciated and in what high esteem they themselves are held. Dame Becher was Matron-in-Chief of Queen Alexandra's Imperial Nursing Service when the war broke out, and Dame McCarthy, a Principal Matron, became Matron-in-Chief of the British Armies in France. These ladies are, we believe, the only two departmental chiefs who have remained in the same office throughout the war. Dame Becher has been responsible at the War Office for the supply of the nursing staff at home and abroad, including every expedition, from German East Africa to Murmansk; providing nurses and V.A.D.s wherever they were wanted, and doing it so well as to obscure the difficulty of her task. Dame McCarthy must be known to every man who served in France, certainly to every medical officer; she was to be met with on the road in her car wherever British forces went in France, and her fearlessness, which took her to casualty clearing stations in difficulties, as during the retreat in March, 1918, excited the admiration of every soldier. She and Dame Becher were welcomed by the officers and men of the Army of the Rhine as one of themselves. They visited most of the medical units; they inspected the hospitals and casualty clearing stations in and about Bonn and Cologne, saw a demonstration of stretcher work in the trenches, and went to Langenfeld and Leichlingen, where they inspected German institutions which have been taken over and adapted as general hospitals for British troops. One day they went into the American area on the Moselle, and before they left the British Army of the Rhine they attended a reception, where they met the Commander-in-Chief, Sir William Robertson, and some of the corps commanders, and received a visit from General Mangin, the French Commander-in-Chief, who thanked them for the services rendered by British nurses to his armies. Thanks were also given by Belgian and American officers for similar services. On the last day of their visit the two Matrons-in-Chief made a tour of the northern part of the front, visiting Douai, Lens ("chef d'œuvre de destruction," according to Clemenceau), Loos, Hulluch, La Bassée, the brickstacks, and the railway triangle, on to Givenchy and Bethune, passing the famous dressing station known as "Harley Street"; then going south to Notre Dame de Lorette, Souchez, and the Vimy Ridge with its Canadian monuments, and so through Roclincourt, by the three great craters, along the north of the Scarpe into Arras, and out to Cambrai. They completed their tour of inspection by visiting British hospitals at Antwerp and Rotterdam. It may be that the two Matrons-in-Chief looked upon their visit as an occasion to say good-bye to the army for which they have worked so long and so well. We believe that both are about to retire. We venture to hope that services so conspicuous and successful will be formally recognized by a vote of thanks by Parliament.

FASCICULATION OF NERVE TRUNKS.

A KNOWLEDGE of the disposition of nerve bundles in the trunks of the peripheral nerves has so obvious a value for suture and grafting that attempts have been made, chiefly by electrical stimulation, to map the more important of them. Professor Dustin's[1] recent contribution to the subject is of great importance. He made an anatomical study by means of sections and teased macerated specimens, of a considerable number of median, ulnar and musculo-spiral nerves, and showed that there are wide individual variations of fasciculation. Some trunks are but sparsely, some richly fasciculated, and the type is not characteristic of any particular nerve, though the ulnar is, of these three, the most broken up. In a given individual all three may be of one type but by no means necessarily, nor is there any essential bilateral symmetry. In a given trunk the type varies almost from millimetre to millimetre; that is, there is constant division and re-anastomosis of the fascicular plexus. Fusion occurs where there are no branches, diffusion near and at collateral or terminal branches. There are zones of dispersion and condensation. Close to the roots and in the plexus variability is very great, but still nodal zones are observable. It thus becomes evident that no functional systematization is possible on an anatomical basis, and that excitation-

[1] *Ambulance de l'Océan*, Tome II, Fasc. I, p. 135 et seq.

localization must be special to each individual nerve. Since the type of fasciculation alters constantly within a millimetre or two, and since a greater length than that must be removed for "freshening" before suture of a completely divided nerve, it is clear that exact anatomical apposition is impossible. The prognosis will be better the nearer the line of suture is to a nodal zone, that is, the more remote from a branch; the number of cross junctions will be minimal, and the amount of interposed cicatricial tissue proportionately less. In the case of partial section the case is very different. The neural contents of every sheath that is opened suffer demyelinization with fibrillation and degeneration of axons, and consequently the greater the number of subdivisions of sheath, the fewer the axons likely to be destroyed by a given lateral wound. At or near a nodal zone half or a third of the axons are likely to be involved, and therefore at such a point a partial lesion justifies resection and total suture. On the other hand, a wound near branches offers good prospect of recovery from conservative repair, more especially in the biggest nerves. In the choice of a nerve for a graft there is no point in selecting an homologous nerve, but nodal portions should be taken to ensure a minimal amount of connective tissue interference.

OPTIONAL OR COMPULSORY GREEK AT OXFORD.

THE new responsions statute, the effect of which would have been to make Greek no longer compulsory at Oxford, was rejected in Convocation on June 17th by a majority of six votes; the figures were 312 against the change and 306 in favour of it. By an overwhelming majority in Congregation the resident members of the university about a month ago carried a statute to make Greek optional in the examinations leading to the B.A. degree. The rejection of the new statute was moved by the Rev. E. M. Walker, a Fellow of Queen's College, who said that he and those acting with him were prepared to accept the compromise that students of mathematics and natural science should be excused the test of Greek. The opponents of the proposed statute as it stood had prepared amendments, but they had been ruled out of order; they were therefore bound to appeal to Convocation to throw the statute out, in order that a new form embodying the principle of the compromise might be introduced at the beginning of the next term; there would then be no reason against its becoming law before Christmas. The Greek Committee would not oppose it. Mr. Ernest Barker, a Fellow of New College, who introduced the statute, said that the opinion of the resident teachers in favour of it had largely increased; in fact he knew of no statute during the last twenty years that had been received in Congregation with such remarkable unanimity. He asked that the responsions examination should be reshaped, and contended that so long as a system of classical scholarships existed there was encouragement, in the form of a bounty, for the study of Greek. The clear issue was between responsions as it existed with all-round compulsion, and responsions as under the proposed statute which would provide all-round option. The Regius Professor of Greek (Professor Gilbert Murray) said that the main argument in favour of retaining Greek was that at a time of great danger to humane studies it would tend to keep the language alive in schools. The main argument against it was that many people were being compelled to learn a subject not germane to their main studies; in his opinion that was a fatal objection. If the statute were defeated he promised to bring forward a compromise next term which, if passed, would oppress no one. It would produce a course in which the modern was based on the ancient in such a way that every part subserved the whole. The old culture would be reformed, brought into touch with the times, revivified, and made brighter. The new statute was rejected by the narrow majority already stated. It seems, however, that a certain amount of progress has been made, and the details of Professor Murray's compromise will be awaited with interest.

LIQUOR CONTROL.

A DEPUTATION from the Temperance Council of Christian Churches, among the members of which were the Bishop of Croydon and Sir Alfred Pearce Gould, was received by Lord D'Abernon, chairman of the Central Control Board (Liquor Traffic), on June 14th. The Temperance Council has a programme of nine points, including Sunday closing, restriction of the week-day hours of opening, reduction of the number of licensed premises, control of clubs, the abolition of grocers' licences, the prohibition of the sale of intoxicating liquor to young persons, and local option. Lord D'Abernon, in his reply, said that the problem before temperance reformers to-day was very different from that presented in 1914. Statistics for the years 1910 to 1914 showed an increase in drunkenness and alcoholic diseases, but those down to the beginning of the present year indicated that owing to war time restrictions, and to the self-imposed moderation and good sense of the people, drunkenness had fallen to less than one-fifth of the pre-war level, and alcoholic diseases had declined in practically the same proportion. The problem to-day was not so much how to devise measures to effect further improvement, but how to maintain the ground gained without infringing personal liberty and without imposing such restrictions upon recreation and refreshment as might be considered intolerable in time of peace. There could be no question of continuing the war powers; a new system with parliamentary and ministerial control would have to be set up. The nature of the duties and responsibilities imposed on the controlling authority under that system would depend upon public opinion, but in his judgement the position was full of hope; he believed that the large majority of the public would be in favour of new measures, based upon recent experience, which, while ensuring improvement compared with the pre-war period, would not interfere with the habits, customs, and pleasures of the people to an undue extent. To achieve this result temperance advocates would have to examine and revise their pre-war programme, which contained much that was unnecessary or too extreme. The problem should be studied with a fresh mind and only that portion of the old programme maintained which had been proved by the experience of the past four years to be both effective and necessary. He was glad that the programme of the Temperance Council did not include restriction of quantity; severe restriction of quantity had never formed part of the policy of the Central Control Board, and was undesirable even from the temperance point of view. The programme put forward bore evidence of a reasonable spirit and a desire to discuss matters with the other side, and there was in large sections of the trade something of a new spirit. Mr. Sydney Nevile, in his paper in a recent issue of the *Journal of the Institute of Brewing*, recognized that sobriety was vital for the well-being of the trade, welcomed many of the restrictions imposed during the war, and advocated a large reduction in the number of licensed houses. Lord D'Abernon, in conclusion, said that he had always been opposed to the view that the only advance towards true temperance was through the destruction of trade interests. He believed, on the contrary, that discussion between intelligent representatives of the trade and the leaders of temperance thought would show that there were many points in common and that their objects were not necessarily incompatible. Moderate opinion, he believed, was largely agreed in wishing the retention of a maximum of the benefits resulting from war control, together with the imposition of a minimum of the restrictions necessary to obtain the desired result, and the conditions of the present time offered a unique opportunity for achieving a permanent advance. Lord d'Abernon's statement seems to put the

matter very well; the temperance cause has always suffered from over-statement The vast majority of people in all the allied countries are in the habit of taking alcoholic beverages, and of this majority only a very small minority take them to excess. The whole temperance agitation is suspect owing to the exaggerations of its more extreme advocates.

DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL.

THE General Medical Council will hold in November next an election for the appointment of direct representatives upon it of the medical profession. The election is conducted by means of voting papers forwarded through the post. The present representatives for England and Wales are Dr. H. W. Langley Browne (West Bromwich), Dr. H. A. Latimer (Tunbridge Wells, late of Swansea), Dr. J. A. Macdonald (Taunton), and Sir T. Jenner Verrall (Bath). Dr. Langley Browne and Dr. Latimer were first elected at the end of 1906, and re-elected five years later; Dr. Macdonald was elected in May, 1911, and Sir Jenner Verrall at the end of the same year. Under the Medical Act of 1886 all four would have come to the end of their term of office by the end of 1916; but in order that the practitioners of the country might not be diverted from their urgent concerns by the formalities of an election, the Privy Council applied to the General Medical Council the provisions of the Parliament and Local Elections Act, 1916; under this an Order was issued prolonging the tenure of the direct representatives until the end of 1917. By the same means the election was further postponed from year to year during the war, with the result that all the direct representatives retain their office until December 31st, 1919. We understand that the four representatives for England and Wales have intimated their willingness to stand for re-election if selected as the nominees of the British Medical Association. The direct representative for Scotland, Dr. Norman Walker, who has held office since January, 1907, and is now Chairman of the Business Committee, will stand again; Dr. Michael Dewar of Edinburgh has also expressed his intention of becoming a candidate. The direct representative for Ireland is Dr. Leonard Kidd, who has sat since 1906.

THE PREVENTION OF HYDROPHOBIA.

THE Society for the Prevention of Hydrophobia, founded in 1886, did at that time a great deal of useful work by informing the public respecting the nature of rabies in animals and man, and in urging the Government to take the only action by which, in the light of past experience, the disease could be eradicated from Great Britain—namely, the muzzling of all dogs for a specified period, accompanied by quarantine for six months of all imported dogs. Owing largely to the efforts of the society very extensive areas of the country were scheduled for muzzling in 1897 and quarantine instituted. For the sixteen years from 1902 to 1918 no case of rabies was reported in the country, and the operations of the society were suspended. It is now resuming work in view of the fact that rabies has broken out again, owing, as is believed, to the smuggling of dogs from the Continent. The position is being met by the Board of Agriculture by partial muzzling orders, a policy which must always be ineffective. The late Sir Victor Horsley was chairman of the committee of the society; his place has now been taken by Mr. Sidney Turner, who for twenty years has been chairman of the Kennel Club Committee, a fact which is sufficient proof that the welfare of dogs, as well as the safety of the public, is one of the chief objects of the society. The prospectus of the revived society gives some particulars of general interest. It states that in 1885 no fewer than 39 persons died from hydrophobia in London and the suburbs, a very large majority being children. A police muzzling order was issued in November of that year, and in 1886 there were only 9 deaths, and the order was rescinded. Rabies, however, occurred in 1889, when there were 312 cases; in the following year there were 129; in 1891 there were 79, and in 1892, 38 cases. The rabies order of 1892 was inefficiently administered by local authorities, and in 1893 there were 93 cases; in 1894 there were 248, and in 1895 there were 672. Then muzzling orders were more generally enforced, and there was at once a decline in the number of cases notified. How many deaths from hydrophobia in London and Wales occurred at this period has probably been forgotten; in 1889 they numbered 30, in 1890 there were 8, in 1891, 7; in 1892, 6; in 1893, 4; in 1894, 13; and in 1895 there were 20. The present policy of applying the muzzling order only in districts in which rabies has been recognized cannot be expected to produce the desired results, and the society advocates universal muzzling for eight months, combined with quarantine for imported dogs. The muzzling order does not apply to dogs actually employed when used for destroying vermin, working for shepherds or herdsmen, or in sports when in charge of competent persons. At the present time the order is not properly enforced even in some of the scheduled districts, and this is a matter to which the society should give early attention. Its secretary, Mr. Frank Karslake (35, Pond Street, Hampstead, N.W.3), has published a new edition of an excellent pamphlet entitled, *Rabies and Hydrophobia: their Cause and Prevention*,[1] in which some particulars are given of the occurrence of the disease in animals other than dogs.

A MEDICAL INSTITUTE FOR NEWCASTLE.

FOR many years it has been recognized that the housing accommodation available has been quite inadequate and unsuitable for the numerous scientific medical societies which meet in Newcastle, and several efforts have at various times been made to secure suitable premises in a central position. This long-cherished ideal is about to be realized through the munificence of one of the most respected and public-spirited practitioners in the neighbourhood, Dr. J. W. Smith of Ryton. Dr. Smith has, with characteristic generosity, offered a sum of £5,000 to found a medical institute in memory of his son, Dr. J. Wilkie Smith, who died at an early age with almost tragic suddenness some five years ago. His object is not only to provide a suitable meeting-place—where the various medical societies and other organizations may meet under one roof—but perhaps even more, to provide a rendezvous for the members of the medical profession in northernmost England in their not too numerous spare moments. The lack of such a home has frequently been deplored, and Dr. Smith is conferrring a very real boon on his professional colleagues by his timely and generous gift. A small committee has the project in hand, and it is hoped that a further announcement may be made at an early date.

SIR ANTHONY BOWLBY, K.C.B.

SIR ANTHONY BOWLBY will shortly retire from the post of senior surgeon to St. Bartholomew's Hospital. His colleagues and pupils propose to present to him a portrait of himself painted by a well known artist, in recognition of his services to the hospital and medical school, and of the appreciation felt by all St. Bartholomew's men for the work he has done for the Army Medical Service during the war. The portrait will be formally presented to Sir Anthony Bowlby at a meeting of the subscribers, and it will be hung in the Great Hall of the hospital. The honorary secretary of the fund is Mr. W. G. Ball, The Warden's House, St. Bartholomew's Hospital, E.C.1; and subscriptions—which should not exceed two guineas—should be sent to the treasurer, Mr. R. C. Bailey, at that address.

[1] London: W. and G. Foyle. 1919. (Price 1s.; or from the author, post free 1s. 2d.)

BIRTHDAY HONOURS.

THE following is a further instalment of honours conferred on the occasion of the King's birthday.

O.B.E.

Lieut.-Colonels: E. Wilberforce Goodall, R.A.M.C.(T.F.), Samuel B. Smith, D.S.O., R.A.M.C.

Honorary Lieut.-Colonels: Edward H. Nicholas, R.A.M.C., Ernest W. White, R.A.M.C.

Temporary Lieut.-Colonels: Herbert G. Ashwell, R.A.M.C., Gilbert A. Bannatyne, R.A.M.C., William R. Dawson, R.A.M.C., Jack Grinsell, S.A.M.C., David Horwich, S.A.M.C., Raymond Maxwell, S.A.M.C., Arthur B. Mitchell, R.A.M.C., Herbert J. Orford, S.A.M.C., Charles Porter, S.A.M.C., Seton S. Pringle, R.A.M.C., William T. Prout, C.M.G., R.A.M.C., Paul C. E. Tribe, R.A.M.C., W. J. N. Vincent, R.A.M.C., William Wrangham, R.A.M.C.

Temporary honorary Lieut.-Colonels: Georges Dreyer, R.A.M.C., Peter Macdiarmid, R.A.M.C.

Majors and Brevet Lieut.-Colonels: R. A. Bolam, R.A.M.C. (T.F.), Andrew McMunn, R.A.M.C., Charles Rundle, R.A.M.C. (T.F.).

Majors (temporary Lieut.-Colonels): Hamilton M. Cruddas, C.M.G., I.M.S., William V. Field, S.A.M.C., Gordon W. Fitzgerald, R.A.M.C.(T.F.), George W. Heron, D.S.O., R.A.M.C., Lewis W. Jeffries, D.S.O., A.A.M.C., Alexander E. Kidd, R.A.M.C.(T.F.), Ian M. Macrae, I.M.S.

Majors (acting Lieut.-Colonels): Charles Bramhall, R.A.M.C., James C. G. Carmichael, R.A.M.C., Thomas M. Carter, R.A.M.C.(T.F.), George De la Cour, R.A.M.C., John M. M. Crawford, R.A.M.C., Ernest N. Cunliffe, R.A.M.C.(T.F.), Thomas H. Gibbon, R.A.M.C., David J. Graham, R.A.M.C. (T.F.), Arthur C. H. Gray, R.A.M.C., Alfred B. Hinde, R.A.M.C.(ret.), Frederick W. Johnson, R.A.M.C.(T.F.), Seymour W. Jones, I.M.S., Ernest B. Lathbury, R.A.M.C., Robert W. D. Leslie, R.A.M.C., Donald K. McDowell, C.M.G., R.A.M.C., Alfred W. Moore, R.A.M.C.(T.F.), Richard E. U. Newman, M.C., R.A.M.C., Daniel W. Patterson, R.A.M.C. (T.F.), Thomas J. Potter, R.A.M.C., Brownslow Riddell, R.A.M.C.(T.F.), Henry B. Roderick, R.A.M.C.(T.F.), John W. S. Seccombe, R.A.M.C., H. W. Marett Tims, R.A.M.C., John J. Urwin, I.M.S., Walter J. Waters, R.A.M.C., Norman Septimus Wells, I.M.S., Joseph F. Whelan, D.S.O., R.A.M.C., Maurice Forbes White, I.M.S.

Majors: Michael D. Ahern, R.A.M.C., Frederick W. Andrewes, R.A.M.C., Cyril V. Baigent, N.Z.M.C., Harry C. Baker, S.A.M.C., Frederick T. Bowerbank, N.Z.M.C., James M. G. Bremner, R.A.M.C.(T.F.), George R. Bruce, R.A.M.C. (S.R.), William Byam, R.A.M.C., Stanley G. Chown, C.A.M.C., Richard C. Clarke, R.A.M.C.(T.F.), Edumand H. Colbeck, N.Z.M.C., Alexander Cook, A.A.M.C., Martin A. Cooke, R.A.M.C.(T.F.), Daniel M. Corbett, R.A.M.C., Evan J. T. Cory, R.A.M.C.(T.F.), Charles Crawley (R.P.), R.A.M.C., John Francis Cunningham, R.A.M.C., Arthur M. Davidson, A.A.M.C., James H. Douglass, R.A.M.C., James M. Duncan, R.A.M.C.(T.F.), Albert Ehrmann, R.A.M.C.(T.F.), Arthur W. M. Ellis, C.A.M.C., George E. O. Fenwick, N.Z.M.C., Walter H. Fisher, R.A.M.C.(T.F.), Michael G. Foster, R.A.M.C. (T.F.), Norman M. Gibson, A.A.M.C., Alexander C. E. Gray, R.A.M.C., Alfred H. Heslop, D.S.O., R.A.M.C., Clayton A. F. Hingston, I.M.S., Personal Assistant to the Surgeon-General with the Government of Madras, Archibald H. Hogarth, R.A.M.C.(T.F.), Arnold W. Izard, N.Z.M.C., Arthur L. Jones, M.C., C.A.M.C., Lorne F. Jones, C.A.M.C., Frederick D. H. B. Lawton, A.A.M.C., John R. Lee, R.A.M.C., Archibald F. Macaulay, C.A.M.C., John Macdonald, A.A.M.C., Sir Andrew Macphail, C.A.M.C., Eric L. Marchant, N.Z.M.C., Isa Carswell Marshall, R.A.M.C.(T.F.), Charles J. Martin, R.A.M.C.(T.F.), Samuel Martyn, R.A.M.C.(T.F.), Edward B. Munro, I.M.S., Francis Napier, S.A.M.C., Lamont Patterson, H.Q. Staff, Newfoundland, Henry P. Pickerill, N.Z.M.C., William R. Pirie, R.A.M.C.(T.F.), G. Newton Pitt, R.A.M.C.(T.F.), John D. Richmond, D.S.O., R.A.M.C., James C. A. Rigby, S.A.M.C., Michael B. H. Ritchie, D.S.O., R.A.M.C., Russell B. Robertson, C.A.M.C., Harry W. Russell, R.A.M.C., Arthur B. Smallman, D.S.O., R.A.M.C., Walter G. Spencer, R.A.M.C.(T.F.), Arthur C. Stamberg, R.A.M.C., Percy D. Stewart, C.A.M.C., Samuel J. Streight, C.A.M.C., Russell H. Jocelyn Swan, R.A.M.C., Charles L. D. Taylor, R.A.M.C., Norman D. Walker, R.A.M.C., Vernon N. Whitamore, I.M.S., Charles F. White, R.A.M.C., Reginald Worth, R.A.M.C., Maurice B. Wright, R.A.M.C.

Temporary Majors (acting Lieut.-Colonels): Harry H. Balfour, M.B.E., S.A.M.C., Arthur F. Hurst, R.A.M.C., Ernest W. Skinner, R.A.M.C.

Temporary Majors: George A. Benson, R.A.M.C. (R. of O.), Richard H. Bremridge, R.A.M.C., Edward P. G. Causton, R.A.M.C., O. Challis, R.A.M.C., James A. Devine, D.S.O., R.A.M.C., Alexander R. Ferguson, R.A.M.C., William T. Finlayson, R.A.M.C., William E. Home, R.A.M.C., Charles W. M. Hope, R.A.M.C., Louis F. Knuthsen, R.A.M.C., John S. Morrow, R.A.M.C., Matthew W. B. Oliver, R.A.M.C., Francis C. Purser, R.A.M.C., Gordon Taylor, R.A.M.C., Francis M. R. Walshe, R.A.M.C., Stanley W. Williams, R.A.M.C., Harold W. Wiltshire, D.S.O., R.A.M.C., James C. Woods, R.A.M.C., Sydney W. Woollett, R.A.M.C., W. Perceval Yetts, R.A.M.C.

Temporary honorary Majors: Ernest G. Crabtree, R.A.M.C., Kennedy Foster, R.A.M.C., Thomas G. M. Hine, R.A.M.C.

Captains and Brevet Majors (acting Lieut.-Colonels): Harold H. Blake, R.A.M.C., Robert L. Guthrie, R.A.M.C.(T.F.).

Captains and Brevet Majors: Leslie Dunbar, R.A.M.C., Reginald C. Elmslie, R.A.M.C.(T.F.), A. G. R. Foulerton, R.A.M.C.(T.F.), Colin C. Frye, R.A.M.C.(T.F.), Alexander S. M. MacGregor, R.A.M.C.(T.F.), William McNaughtan, R.A.M.C.

Captains (acting Lieut.-Colonels): William Brown, R.A.M.C. (T.F.), John Bruce, R.A.M.C.(T.F.), William Duncan, R.A.M.C. (T.F.), Wilfred J. Dunn, R.A.M.C., John G. Gill, D.S.O., M.C., R.A.M.C., James D. Kidd, M.C., R.A.M.C., Ernest Knight, R.A.M.C.(T.F.), Edward M. Middleton, R.A.M.C., Hugh G. Monteith, D.S.O., R.A.M.C., John R. Pooler, R.A.M.C.(T.F.), Percival T. Rutherford, R.A.M.C.(T.F.), David J. Scott, M.C., R.A.M.C.(T.F.).

Captains (temporary Majors): Arthur S. Cane, R.A.M.C., John W. Farrar, A.A.M.C., David E. Fenwick, N.Z.M.C., Eric F. W. Mackenzie, M.C., R.A.M.C., Frederick Powlett Rankin, R.A.M.C., Wilfred Warwick Treves, R.A.M.C.

Captains (acting Majors) Adolphe Abrahams, R.A.M.C., James A. H. Aitkin, R.A.M.C.(T.F.), Samuel R. Armstrong, R.A.M.C.(S.R.), Frederick A. Barker, I.M.S., Herbert T. Bates, R.A.M.C.(T.F.), Winslow S. S. Berry, R.A.M.C., John J. E. Biggs, R.A.M.C.(T.F.), Myer Coplans, D.S.O., R.A.M.C.(T.F.), John Dale, R.A.M.C.(T.F.), Richard F. O'T. Dickinson, R.A.M.C., Robert M. Dickson, R.A.M.C., Robert G. Dixon, R.A.M.C.(T.F.), Maurice R. Dobson, R.A.M.C., Arthur W. H. Donaldson, R.A.M.C.(T.F.), Henry J. Dunbar, R.A.M.C.(T.F.), Charles H. J. Fagan, R.A.M.C.(T.F.), Thomas L. Fraser, R.A.M.C., Sydney J. V. Furlong, R.A.M.C.(S.R.), Gerald F. P. Gibbons, R.A.M.C.(S.R.), Archibald J. Gilchrist, M.C., R.A.M.C.(S.R.), Thomas T. Higgins, Maurice J. Holgate, I.M.S., William N. W. Kennedy, R.A.M.C.(T.F.), Charles Kerr, R.A.M.C.(T.F.), Donald H. C. MacArthur, R.A.M.C., Robert B. MacFie, R.A.M.C., David M. Marr, R.A.M.C.(S.R.), Geoffrey Marshall, R.A.M.C.(S.R.), William Mathieson, R.A.M.C., George W. Milne, R.A.M.C., James Y. Moore, R.A.M.C., Matthew W. Paterson, M.C., R.A.M.C.(S.R.), William de M. Peyton, R.A.M.C., William R. Pierce, R.A.M.C.(T.F.), Rees Phillips, R.A.M.C.(T.F.), Thomas S. Rippon, R.A.M.C., Robert L. Ritchie, R.A.M.C., William Thomas Ritchie, R.A.M.C.(T.F.), Alfred L. Robertson, R.A.M.C., Harry D. Rollinson, R.A.M.C. (S.R.), William H. Rowell, R.A.M.C.(T.F.), Thomas Russell, R.A.M.C.(T.F.), George W. Shore, R.A.M.C.(T.F.), Edward P. A. Smith, M.C., R.A.M.C., George W. Smith, R.A.M.C., George H. Stevenson, M.C., R.A.M.C.(S.R.), William Stobie, R.A.M.C. (T.F.), John Strathearn, R.A.M.C.(T.F.), Richard W. Swayne, R.A.M.C.(T.F.), James Taylor, R.A.M.C., Leonard R. Tosswill, R.A.M.C.(T.F.), Reginald Martin Vick, R.A.M.C.(T.F.), Kenneth D. Wilkinson, R.A.M.C.(T.F.), William E. R. Williams, I.M.S., Archibald Wilson, M.C., R.A.M.C.(S.R.), John L. Wood, R.A.M.C., Lionel D. Woods, R.A.M.C.

Captains: Charles H. Allen, R.A.M.C.(T.F.), Henry C. Bazett, M.C., R.A.M.C., George Bell, A.A.M.C., Arthur B. H. Bridges, R.A.M.C., R. Cunyngham Brown, R.A.M.C., James M. H. Campbell, R.A.M.C.(S.R.), Clement C. Chesterman, R.A.M.C., William Corner, R.A.M.C.(S.R.), Reginald S. Orme Dudfield, R.A.M.C.(T.F.), Arthur H. Evans, R.A.M.C.(T.F.), Harold A. T. Fairbank, D.S.O., R.A.M.C., Montgomery du Bois Ferguson, R.A.M.C., Cuthbert E. C. Ferry, R.A.M.C.(T.F.), Charles Forbes, R.A.M.C.(T.F.), Charles J. D. Gair, R.A.M.C. (T.F.), Herbert L. Garson, M.C., R.A.M.C., James A. Glover, R.A.M.C., F. Lucien Golla, R.A.M.C.(T.F.), Henry James Gorrie, R.A.M.C.(T.F.), William Thomson Graham, R.A.M.C., William Francis T. Haultain, M.C., R.A.M.C.(S.R.), Thomas S. Hele, R.A.M.C.(T.F.), Ernest C. Hughes, R.A.M.C.(T.F.), George J. Jenkins, R.A.M.C.(T.F.), Jordan C. John, I.M.S., Colin King, R.A.M.C., Henry Rowland L'Estrange, R.A.M.C., George James Linklater, R.A.M.C.(T.F.), Angus G. Macdonald, R.A.M.C., Arthur G. Maitland-Jones, M.C., R.A.M.C., James F. S. Marshall, M.C., C.A.M.C., Herbert W. Martin, C.A.M.C., John B. de W. Molony, I.M.S., John Muir, R.A.M.C.(T.F.), Thomas M. Ormiston, R.A.M.C.(T.F.), Robert D. Parker, S.A.M.C., Henry M. J. Perry, R.A.M.C., John Renwick, R.A.M.C., William A. Richardson, C.A.M.C., Gerald Russell Rickett, R.A.M.C.(T.F.), Andrew Robertson, R.A.M.C.(T.F.), Robert P. Rowlands, R.A.M.C.(T.F.), Walter J. Ronan, R.A.M.C., Thomas Sheedy, R.A.M.C.(S.R.), Henry S. C. Starkey, R.A.M.C.(T.F.), Reginald S. S. Statham, R.A.M.C., Ralph W. E. Stickings, R.A.M.C.(T.F.), David Thomson, R.A.M.C., Raymond Verel, R.A.M.C.(T.F.), William L. Watson, I.M.S.

Honorary Captain Charles H. Milburn, R.A.M.C.(T.F.).

Temporary Captains: (Brevet Major) William J. Tulloch, R.A.M.C., (temporary Lieut.-Colonel) Edward A. Gates, R.A.M.C.

Temporary Captains (acting Lieut.-Colonels): Hugh S. Davidson, R.A.M.C., Ryder P. Nash, R.A.M.C.(T.F.), Henry Stokes, R.A.M.C., Charles J. West, R.A.M.C.

Temporary Captains (acting Majors): William Anderson, R.A.M.C., William B. G. Angus, M.C., R.A.M.C., Mark Bates, R.A.M.C., Lennox R. Broster, R.A.M.C., Bertram James Collingwood, R.A.M.C., Howard W. Gabe, R.A.M.C., John A. Jones, R.A.M.C., Frederic P. Joscelyne, M.C., R.A.M.C., Richard Ernest H. Leach, R.A.M.C., Reginald H. Lucas, M.C., R.A.M.C., Colin MacKenzie, R.A.M.C., Robert Massie, R.A.M.C., Francis H. Moxon, R.A.M.C., Arthur E. Rayner, R.A.M.C., James E. H. Roberts, R.A.M.C., Herbert H. Sampson, M.C., R.A.M.C., Harold W. Scawin, R.A.M.C., Edward J. Selby, R.A.M.C., William H. Stott, R.A.M.C., Robert Henry Strong, R.A.M.C., Douglas C. Taylor, R.A.M.C., Eric S. Taylor, R.A.M.C.(T.F.), John J. Thomson, C.A.M.C., Philip N. Vellacott, R.A.M.C., Frank W. Wesley, R.A.M.C., Frederick B. Winfield, R.A.M.C.

(To be continued.)

Scotland.

Honorary Degrees.

The University of Aberdeen proposes to confer the honorary degree of LL.D. upon Emeritus Professor Cash, recently retired from the chair of materia medica in the university; on Emeritus Professor Japp, who retired from the chair of chemistry five years ago; and on Dr. John Scott Riddel, Red Cross commissioner in Aberdeen during the war. The same honour has been offered also to Admiral Sir Roger Keyes, and Mr. W. H. Taft, ex-president of the United States.

Country Homes for Young Children.

The Children's Country Home, established on the outskirts of Glasgow for the care and treatment of physically weak children under school age of certain districts of the city, has accommodation for twenty-five. At a recent inspection Dr. Chalmers (M.O.H. Glasgow) said that the day was coming, probably very soon, when the local authority would follow in the footsteps of the pioneer workers who had established this small home. Similar institutions, he considered, should be attached to every district in the city. Bailie Stewart said that the corporation had spent over £7,000 on child welfare during the past year, and would continue to develop the work in that direction. He hoped that public opinion would learn to insist upon the eradication of the causes of rickety and weak children by the provision of proper housing accommodation.

Hairmyres Tuberculosis Colony.

Hairmyres Colony, established by the Middle Ward of Lanarkshire as part of the scheme for the treatment of persons suffering from tuberculosis, was opened by the Secretary for Scotland on June 14th. By an arrangement with the Insurance Committee for Lanark, the local authorities some time ago undertook the treatment of all insured persons, the Insurance Committee paying over the funds available for sanatorium treatment. By using a scheme already in existence as a nucleus, rearrangement of the work, and by certain extensions and alterations, it was hoped to meet all requirements, but the provision proved insufficient, and it was necessary to do something more in the interests of the patients, of their relatives, and of the community. The system by which a man was taken into a sanatorium for, say, three months, and then discharged to his former occupation, was extravagant, as he soon returned to the care of the local authority. The facts showed that mental and physical work was an integral part of the treatment, and that this must be carried on under medical supervision. The scheme, when complete, will include local dispensaries, sanatoriums, and the colony. The dispensaries are to be suitably distributed throughout the area, the sanatoriums are well placed to meet the needs of the district, and the colony is in a central position. It is intended for selected adult cases on discharge from the sanatorium and for children. There will be an open-air school for the children, and for the adults farm training, market gardening, poultry farming, bee keeping, forestry, and industrial workshops were also provided, but especially the first named. The colony has possession of 300 acres at an elevation of 580 feet, and will provide accommodation for from 250 to 300 patients in a male pavilion, a female pavilion, an observation block, and a children's pavilion. The pavilions are of the butterfly type, as at Edinburgh, and are erected on the ridge of a gentle slope facing south and sheltered by belts of trees on the north. All the pavilions have two stories and a basement; the observation block, which provides for seven male and seven female patients, has one story. In addition to arable farming stock-rearing has been started by the establishment of a fine herd of non-tuberculous Ayrshire cows; calves will be reared in sufficient numbers to maintain the herd without purchase. A forestry scheme is being undertaken by arrangement with the Development Commissioners, and men who have proved their fitness to continue what they have learnt at Hairmyres will have an opportunity of working at forestry camps at a wage sufficient to enable them to continue for a further period of curative work, in the expectation that ultimately they will be able to get ordinary forestry work in this country or in the Dominions. The resident physician is Dr. A. H. Macpherson, formerly superintendent of the Royal Victoria Hospital Farm Colony, Edinburgh.

Ireland.

Irish Public Health Council.

Dr. E. Coey Bigger has been appointed chairman of the Consultative Council for Ireland—the "Irish Public Health Council"—under the Ministry of Health Act. The Act provides that the chairman and three of the members shall be registered medical practitioners, one of them a woman, and one of them holding a diploma in public health. The other members are the vice-president and two other commissioners of the Local Government Board for Ireland, the chairman and two others of the Irish Insurance Commissioners, the Registrar-General for Ireland, and six other persons having practical experience of matters relating to, or incidental to, or affecting the health of the people. Dr. Bigger is a native of Belfast, was educated at Queen's College there, graduated M.D. in 1883, and at the time of his appointment in 1900 to be medical inspector of the Local Government Board was physician to the Infectious Disease Hospital and the Ulster Hospital for Children and Women. He was the medical member of the Viceregal Commission on Poor Law reform in Ireland (1903–6). In 1912 he acted as medical commissioner of the Local Government Board in Ireland during the absence of Sir Thomas J. Stafford, and was closely concerned in organizing the administration connected with tuberculosis schemes, and also with the schemes for child welfare. He was the author of a report for the Carnegie United Kingdom Trust on the physical welfare of mothers and children in Ireland, and was largely responsible for the drafting of the Medical Treatment of Children Bill for Ireland. On the retirement of Sir Thomas Stafford in 1916 Dr. Bigger became medical commissioner; his extensive and valuable experience in departmental work in connexion with public health makes his appointment to his new office a good augury for the future, while his courtesy and urbanity have made him one of the most popular officials.

Ulster Medical Society: Annual Dinner.

The first annual dinner of the Ulster Medical Society after the war was held in the Medical Institute, Belfast, on June 12th. The President, Dr. James Colville, Belfast, occupied the chair, and between seventy and eighty sat down. The following toasts were proposed: "The King," by the President; "Our Representative in Parliament" (Sir William Whitla), by Professor Lindsay, F.R.C.P.Lond., who by permission of the council of the Ulster Medical Society took the opportunity of presenting Sir William Whitla with a beautiful silver cup from the medical and surgical visiting staff of the Royal Victoria Hospital, from which Sir William has just retired. Sir William replied. "Our members home from active service," by Professor Symmers, who emphasized the good work, the self-sacrifice, and sterling conduct of the Ulster contingent, and paid a worthy tribute to the memory of those Ulster men who are now buried on the Flanders and other fronts. Colonel A. Fullerton, C.B., C.M.G., and Major T. Houston, O.B.E., who replied, said that all credit was due to the younger men who so often carried their lives in their hand and suffered much hardship. "Our Guests," proposed by the President and responded to by the Vice-Chancellor of the Queen's University, Belfast, and by the President of the Northern Law Society. "The President," by Mr. Robert Campbell, F.R.C.S.Eng. Dr. Colville, in responding, proposed the health of the Honorary Secretary, Dr. C. G. Lowry, Belfast, to whom, he said, all present owed a debt of gratitude for his exertions both in organizing the meetings and in the arrangements for the dinner. Dr. Lowry responded.

The fourth meeting of the Medical Congress of the Republic of Colombia will be held in the historic city of Tunja in August, 1919, under the presidency of Dr. José Maria Sojo Carmona. The work will be distributed among eight sections. One of them is to be devoted to the indigenous medicinal plants, the mineral waters, poisonous animals, and climatology of Colombia.

Correspondence.

"SUDDEN DEATH UNDER AN ANAESTHETIC."

SIR,—In your last issue (June 14th, p. 739) Dr. H. S. Gabbett of Eastbourne records another instance of sudden death under anaesthesia induced for the enucleation of tonsils by the dissection method. His case resembles many others which have proved fatal during the different methods of "operation for tonsils and adenoids" in that the patient was a young, "well-grown," and comparatively speaking healthy individual.

In his concluding paragraph Dr. Gabbett asks two questions which I would like to answer. My replies will not afford a scientific explanation of such a disaster as he records, but the means of obviating such a tragedy are, at least, the outcome of ripe experience which has not been acquired without having paid the price of such mental suffering as all of us must endure when we have been the principal actors in such a scene as "a sudden death under an anaesthetic."

1. To his first question I should answer that there is no danger in the operation of enucleation of tonsils assuming it is done with reasonable skill, but there is very real danger if anaesthesia is induced by chloroform, or by any mixture in which this drug is an important factor. On the other hand, the risk of the operation will be reduced to a minimum if deep narcosis is brought about by "open ether" preceded by a hypodermic injection of $\frac{1}{100}$ grain atropine, the object of the latter being to check the excessive secretion of mucus which would otherwise be induced by the ether vapour. The ether anaesthesia must be pushed until the pharyngeal reflexes are abolished, and the respiratory movements are quiet and regular in their rhythm. Then the patient may be gagged, and while the actual operation is being performed anaesthesia may be maintained by chloroform administered through a Junker's inhaler. Under these circumstances the stimulant effect of the ether will not be destroyed by the depressing action of chloroform.

2. To his second question, whether the necessarily light anaesthesia given by a Junker apparatus and tube when the mouth is widely open is a source of peril, I reply that light chloroform anaesthesia is surely unwise for any operation, and especially in the throat, where the reflexes are notoriously sensitive and well developed. Furthermore, it is impossible to perform enucleation by dissection in a satisfactory manner unless the pharyngeal reflexes are abolished.

These statements are based on an experience of some twenty years of hospital and private practice; during this time I have seen eleven deaths under anaesthesia induced by chloroform, or a mixture of chloroform and ether. Three were in my own practice. I have never seen a death under "open ether" induction. For the purpose of substantiating the views above expressed I have looked through my private case-books for the last five years and find a record of 575 cases of tonsils "enucleated by dissection." I never employ any other method.

During this last-named period, with very few exceptions, "open ether," preceded by atropine, has been the anaesthetic used. I have not seen a single case of heart failure, and, incidentally, have only had two cases of post-operative haemorrhage; one was really "continued" bleeding; the second occurred on the seventh day after operation.

Hence it is that I hold the very strong conviction that, *as a general rule*, both surgeon and anaesthetist run a grave and unnecessary risk when they agree to the induction of general anaesthesia by means of chloroform, or any mixture in which that drug is a powerful factor.—I am, etc.,

HERBERT TILLEY, B.S., F.R.C.S.

London, W., June 16th.

SIR,—The case recorded by Dr. Gabbett appears to me to be an instance of cardiac fibrillation during light chloroform anaesthesia, the mechanism and frequency of which has been so ably demonstrated experimentally by Dr. A. Goodman Levy. It appears that there are two distinct ways in which a patient may cease to breathe during chloroform anaesthesia. There is the ordinary overdose, the clinical picture being a slow failure, the respiration becomes diminished in frequency and volume, cyanosis develops secondarily, and finally, as in ordinary asphyxia, the heart fails. From practical experience I think that death from this cause must be very rare, even if the condition is not recognized until respiration has ceased. These patients recover with the aid of a little gentle artificial respiration and the administration of oxygen. The other way is a primary cardiac failure and the respiration fails secondarily. The clinical picture is quite different. Suddenly, generally during the induction, the patient becomes intensely pale, the pupils widely dilated, the radial pulse either extremely rapid and irregular or absent, according to the severity of the attack. Respiration continues in a somewhat gasping way for a few moments; frequently the exaggerated sighing inspiration is the first indication of the sudden cerebral anaemia. The patients I have seen recover from this condition have done so suddenly, and recovery has been due to measures directed to restore the cerebral circulation—that is, elevation of the legs and inversion. The colour returns, the radial pulse becomes once more palpable, and breathing starts again. Dr. Levy has shown experimentally in animals that this condition occurs during light and incomplete chloroform anaesthesia following some slight stimulus, and is due to fibrillation of the ventricle. The evidence is, I think, in favour of this being the cause of most of the fatalities under anaesthesia in the human subject. Deaths under anaesthesia are nearly always due to chloroform or its mixtures. According to reports of fatal cases, the patient has frequently been particularly strong and healthy. A very small amount of anaesthetic has been used, but during the induction or at the beginning of the operation the patient has either moved, phonated, vomited, or swallowed, showing a light degree of anaesthesia, and then suddenly died with the symptoms described above.

When the operation of enucleation of the tonsil was introduced by Mr. George Waugh profound anaesthesia with chloroform, with abolition of all reflexes, was advocated. In my own experience of the anaesthetics in a large number of these operations I have never seen a death with profound chloroform anaesthesia, but although it may not be dangerous under these circumstances chloroform anaesthesia sometimes looks rather alarming, and certainly requires very close and constant care, and is consequently a little difficult to manage in the darkened rooms used by some operators. Experiments with ether for this operation were conducted some time ago, and it was found that if a really profound anaesthesia is induced by a so-called "open ether" method—that is, using many layers of gauze and several ounces of ether and pushing the anaesthetic until the respiration begins to get shallow, the pupils widely dilated, and all the pharyngeal and laryngeal reflexes abolished—an absolutely motionless field of operation is obtained, which has always been insisted upon for this operation. With ether this condition is obtained without the slightest anxiety; the patients are pink and rosy.

The chief point raised by this discussion seems to be the possibility of enucleation of tonsils without danger. Whatever the scientific explanation, we know that deaths do occur with deplorable frequency under chloroform. Why, then, induce anaesthesia with chloroform or its mixtures in any case in which it is possible to avoid it?—I am, etc.,

London, N.W., June 16th. FELIX ROOD.

SIR,—To Dr. H. S. Gabbett's request for information whether there is any special danger in the operation of enucleation of tonsils, I would reply that we may assume enucleation of the tonsils to be a major operation and subject to great risks which cannot be entirely obviated. The question arises whether the slight gain from complete dissection of the tonsils is worth the extra risk in what is, after all, a minor malady. I am certain that this operation is passing out of fashion amongst the experts. As your correspondent states, several deaths have been recorded. There are many more which have not been published.

The operation, to be satisfactory, is fairly prolonged, and involves much interference with free respiration whilst the tonsils are pulled inwards, in addition to the traction on the nerves of the neck. Here occurs a combination of dangers. Many of these patients are of lymphatic type

and very susceptible to chloroform, especially with respiratory obstruction. The lungs are filled with chloroform with imperfect aëration. Practically all embedded tonsils can be enucleated by incision of the mucosa and then pulling through a blunt guillotine of suitable size, thus reducing the danger period. During these short manipulations ether should be substituted for chloroform. There will then be little danger of syncope.—I am, etc.,

Manchester, June 16th. WILLIAM WILSON.

SIR,—There is nothing unusual in the conditions attending the death that Dr. Gabbett reports. It is the old story of an intermitted and insufficient administration of chloroform followed by fibrillation of the ventricles, the same sequence that occurs in practically all fatal cases of sudden chloroform syncope. For more full information I can refer Dr. Gabbett to my paper on this subject in the *Proceedings* of the Royal Society of Medicine, 1914, vol. vii (Section of Anaesthetics).

Light chloroform anaesthesia in certain operations is a technical facility which does not justify the risk entailed, and the surgeon who requisitions it assumes a heavy responsibility. Such an operation as enucleation of the tonsils can be performed without risk of sudden cardiac failure under (1) the full and continuous administration of chloroform, (2) the administration of ether without regard to the depth of anaesthesia. It is perhaps sufficient to add that the admixture of ether with the chloroform is no safeguard against sudden death.—I am, etc.,

London, W., June 16th. A. G. LEVY.

SIR,—May I draw attention to an article, "On the probable causes of fatalities at the tonsil-adenoid operation," which I contributed to *The Practitioner*, November, 1917? In this I pointed out that although fatalities are not common, there is, besides the possibility of shock and of haemorrhage, special liability to dangers which do not arise during operations of far greater surgical importance. Therefore, without special experience on the part of both operator and anaesthetist, and perfect co-operation, difficulties and dangers are almost certain to occur. I mentioned that "in some, breathing stops at once when the gag is opened widely enough, and the operation has to be done in snatches, if drawing the tongue or epiglottis well forward does not effect improvement." This is apt to occur in patients with ill-developed lower jaws. Lightness of anaesthesia will not make amends for prolonged obstruction of the respiration, and for the effect of such upon the heart and circulation.—I am, etc.,

London, N.W., June 16th. J. D. MORTIMER.

SIR,—A surgeon who is much indebted to the skill of many anaesthetists may perhaps be permitted to place his experience on record as a slight tribute to them and an answer to some of the questions asked by Dr. H. S. Gabbett. In a series of 18,000 operations for enucleation of tonsils by dissection performed by the writer no death has occurred from the anaesthetic, although the operation has been performed deliberately on many children suffering from active heart disease. Some years ago one patient died on the table as the result of a combined operation for the removal of a large mass of breaking down glands from the neck and the enucleation of tonsils. The patient died from exhaustion at the end of a very long and tedious operation. It was clearly an error of surgical judgement to have attempted the tonsil operation at the same time, and the fatality could in no way be attributed to the anaesthetist or the anaesthetic. Until quite recently all these operations have been performed under a deep chloroform anaesthesia which has been maintained throughout the whole course of the operation. The Junker apparatus, containing pure chloroform, easily permits a depth of anaesthesia to be maintained so that the pharyngeal reflexes are abolished, and the surgeon has a perfectly still field of operation for his work.

This is an essential that I have always insisted upon; its justification appears to be found in the figures already quoted. Whether they also supply a satisfactory answer to Dr. Gabbett's question, "Is there special danger in the operation of enucleation of tonsils?" is an issue that must be left to the judgement of the individual reader.

To attain deep chloroform anaesthesia the dangerous zone of light anaesthesia must always be traversed. Modern research has shown how uncontrollable this danger is, and therein is inherent the objection to the use of chloroform under any circumstances in surgery. But the resourcefulness and skill of the anaesthetist has circumvented that danger by developing the administration of open ether to such a pitch of perfection that the operation of removal of tonsils by dissection can be performed under it with the perfect surgical condition of an immobile pharynx. Under such a condition the surgeon can have no apprehension for the safety of his patient, and no excuse for failure but himself. My experience of open ether for this operation is limited to the last eighteen months or so, but it is sufficient to engender the feeling that anaesthetists have once more placed the patients and surgeon alike in their debt.—I am, etc.,

London, W., June 16th. GEORGE E. WAUGH.

THE INDIAN MEDICAL SERVICE.

SIR,—As you have told me that you intend to publish in your columns the remarks that I had the privilege of making at the I.M.S. dinner last week, and as the spontaneous call that I should speak on that occasion came from the officers on the active list of the I.M.S., I ask leave to add a few remarks to what I then said. The attitude I then took up was no political move but an honest expression of the position as I see it. I know from the many letters I have received that my brother officers appreciate that I have no axe to grind, that I have nothing to gain and nothing to fear, and that my one desire is to work in their interests and in those of the country they are so magnificently serving. I especially wish to assure them that the idea, which appears to be prevalent among them, that the British Medical Association feels that it has done its work and is now resting on its oars, is utterly mistaken. We are watching every move of the game with the closest attention, and we are taking steps to obtain the most reliable information on every point. To act precipitately, no matter how black things might look for us, would be to give our case away. We are a service of officers and gentlemen, and those who deal with us must never have the least reason to doubt that we shall play the game with them to the end. Those who criticize most fiercely the actions of the principals in this drama perhaps fail the most to appreciate how great are the difficulties which beset every step of the way.

During the years that I have had the privilege of representing the Indian Medical Service in the councils of the British Medical Association I have, consistently from one and all, met with unwavering sympathy and support. The unexpected and very flattering resolution passed by the Council at its last meeting, after receiving the report on the Indian Medical Service, has only served to intensify my desire and determination that every action we take on behalf of the service should be such as to justify the confidence which has been so ungrudingly given us in the past. The whole weight of the Association is behind us, its sympathies are warmly with us, and it is up to us to carry this matter through in such a way as will, if possible, increase that sympathy and make that support doubly sure. I know the many difficulties of the officers of the service at the present moment, and I have had the honour of bringing them personally before Mr. Montagu's notice. However hard it may be, I would ask once again for trust and patience.—I am, etc.,

R. H. ELLIOT, M.D., Lieut.-Colonel I.M.S. (ret.),
Chairman, Naval and Military Committee, British Medical Association.

London, W., June 15th.

INSURANCE TERMS AND CONDITIONS (M. 25).

SIR,—Dr. Brackenbury is to be congratulated on the Report (M. 25) which he, with the sanction, it appears, of his committee, has evolved. Like the Walrus and the Carpenter, he and the Commission take us gently by the hand, and would lead us to our fate.

> "The time has come," the Walrus said, "to talk of many things" . . .

Certainly Dr. Brackenbury talks all over the field, and so nicely, too, with such a happy blend of formality and friendliness! Of course, all he says is only tentative.

"Neither the profession nor the Government are committed to the . . . suggestions." (Section 1, M. 25.)

"No hurry!" said the Carpenter. They thanked him much for that.

Section 3 is very disarming: "The question of the *amount* of remuneration is to be left entirely on one side for the moment." Then follows the "great glittering scheme" for the new model army of the medical profession, set forth in semi-officialese that is so like the real thing that one turns back now and then to the first page to make sure that the heading is "British Medical Association" after all. (It came, by the way, in an O.H.M.S. envelope. How nice and harmonious of negotiating parties to work together like this, to be sure!)

Sir, has it really come to this, that we, a great learned independent profession are to be led in bondage? Is a third party, the Government inspector, to intervene at any turn between us and our patients? Are we to be told in sonorous tones that we really enjoy a unique privilege (Section 82) because "the employer," meaning the Commissioners, "is obliged to accept the offer of any qualified person"? What new doctrine is this that would supplant the time-honoured relationship between a doctor and his patient? Is the Government, then, the master, the doctor the workman, the patient the mere material worked upon? What type of practitioner is this system going to develop? The inspector-pleasing type, the report-writing, the docketing, the indexing? The whole business lacks the natural touch. It is developed on a misunderstanding of fundamentals. Its father is club practice, its mother is State medicine, and its sponsor is Dr. Brackenbury.

National Health Insurance might have meant that a man could insure with the state for the payment of his doctor. What this report means is that the state shall be the employer, the doctor the contractor, paid so much a head, supervised by an army of inspectors, specialists, referees, and commissioners.

The capital error lies in the system of capitation payment. The worst of the situation in which we find ourselves is that a stupid dread of accountancy has driven us deep into the acceptance of this capitation system; and we are committed, not only to it, but to clerical work more exacting by far than any accountancy for the purpose of mere tariff payment—clerical work which will want a good deal of thinking about, for not only is it to be "most valuable from the point of view of national science and statistics," but it is also to "be so arranged as to afford a continuous individual history of illness," and to do so by means of such subtle language that this history will not necessitate "any real violation of professional secrecy." Shall we have to rub up our Greek?—or perhaps the docket clerks will not know Esperanto.

It must be seriously admitted that M. 25 reveals the future of the insurance system with all its menace, that it indicates a logical development of the system we accepted or were forced into in 1912, that it puts the best complexion on the scheme and is an honest attempt to elaborate and improve it from the point of view of a bureaucrat. But it may be asked: Is our English hospital system of supplying consulting services so very bad, so very inadequate? Are not cottage hospitals and local infirmaries springing up and capable of further development, especially with a little (and not too much) state help? Can they not supply some of these much-talked-of specialist services?

What is wanted is to put every one within reach of first-rate treatment. Securely paid private practice, supported by some system of insurance, together with a development of hospitals, large and small, would do this far more effectually than all these horrible regulations which are foreign to the very spirit and atmosphere of medical work.—I am, etc.,

Holmes Chapel, June 12th. LIONEL JAS. PICTON.

SIR,—It is good to know from Dr. William Hodgson's letter in your issue of June 7th, p. 724, that one member of the Insurance Acts Committee protests against M. 25. "Peradventure there be one righteous within the city." But shall destruction be stayed for one's sake?

Had this appalling document emanated directly from the Commissioners without consultation with a body supposedly representing practitioners' interests, it would have been at least understandable as a statement of what, from the administrative standpoint, may be desirable alterations, and it would have remained for us wholeheartedly to resist the majority of the proposals. But published as it is, with the full parental blessing of our representatives, what is one to think? And, incidentally, what inducement is there to trust such a body with the management of the Defence Fund? Indeed, after M. 25, what is there left to defend?

For the purpose of brief criticism, the essence of the report from the panel practitioner's point of view is contained in the three proposals following:

(1) Alteration of lists.
(2) Subsidizing opposition to the panel practitioners at the victim's expense.

It must surely be obvious that (1) and (2) are but the first step towards the annihilation of all capital values in practices. When, with the early inclusion of dependants in the medical benefit scheme, all private practices in industrial areas shall have disappeared, the amount of a practitioner's income will depend not on his ability or initiative, but solely on the available number of young practitioners ready and willing to be set up in practice on very easy terms, and in a wonderfully short time a dead level of income will be attained. Where, then, shall a man look for the return of the money he invested in buying the goodwill of his practice? In brief, what is all this but the disadvantageous side of State service without the compensations of regularized hours of work, fixed holidays, and pensions?

(3) Constituting certain payments a prior charge on the pool.

This proposal does not, of course, affect districts which at present elect to be paid on the attendance basis, but the vast majority of areas have chosen the capitation basis, and what reason of any weight has been or can be adduced for the callous betrayal of our one cherished security?

When I took service under the Insurance Act I accepted for a certain payment the risk of sickness incidence amongst my patients, but I am most unwilling to accept the risk of my neighbour's psychology in the matter of the need amongst his patients for minor operations, anaesthetics, etc.

Looking at the report as a whole and disregarding for the moment the suggestions for alterations in certain administrative details (Summary, pars. x, xi, xii) which one might be pardoned for thinking the Commissioners capable of devising without the weighty advice of the Insurance Acts Committee, I shall be sincerely glad if any member of the Insurance Acts Committee will indicate a single item where the interests of the established panel practitioner have been safeguarded, much less forwarded.

May I, Sir, express the hope that your correspondence columns will soon show evidence of a more lively interest in the question than has been hitherto apparent? Is the present lack due to apathy or dismay? Is the profession asleep or suffering from concussion?—I am, etc.,

Liverpool, June 17th. R. PATERSON.

SIR,—I received to-day a memorandum by the Medico-Political Union on the report M. 25 of the Insurance Acts Committee. I do not know if this is the product of the Council of this Union after due deliberation or whether it is the effort of the manager of the concern, Dr. Welply. It, however, is a most offensive effusion, and does not help one in any way to digest the report referred to. It complains that the question of remuneration is eliminated and that the reason for this is difficult to explain. I think this is clearly indicated in the report—that the services which may be required are *sub judice*, and that until these are decided upon it is impossible to discuss the remuneration.

The memorandum very offensively alludes to the leaders of the profession—"consultants, experts, and specialists," the "high brows of the profession"—and wonders why these were called in at all. Surely every man in the profession is interested in any legislation which affects the profession. If a large body of the public is to be included under the Insurance Act, this must affect non-panel men, and if consultants are to be called in under the panel scheme, this must affect consultants. Besides, I think it is very necessary that the men at the head of the profession should be consulted in the matter; they would be able to give unbiassed advice on the very important questions which are to come up for consideration.

The author of this circular complains that bodies which act specially for panel practitioners (meaning, I presume, the Medico-Political Union) were not asked their views—were indeed told that "their views were not wanted." I should certainly say this is not surprising when one reads the literature evolved and distributed gratis by the Union.

I certainly believe that "unity is strength," and that if the British Medical Association does not represent the views of the profession it is due to the apathy of the general practitioner, who should be stirred up. At a well attended meeting of the panel practitioners of the county of Carmarthen it was unanimously agreed that the ½d. levy should be raised, and the general feeling was that we should not dissipate our forces but stick to the Association.—I am, etc.,

Llanelly, June 9th. JOHN D. DAVIES.

MEDICAL APPOINTMENTS UNDER THE MINISTRY OF PENSIONS.

SIR,—With reference to your remarks upon a circular recently issued by the Director-General of Medical Services, Ministry of Pensions, you appear to have been informed that a certain sentence had been misconstrued by some medical men employed upon the boards into a reflection upon the nature of the services they have rendered during the war.

Without any such misconstruction it is not to be wondered at that some have seen in that circular a possibility of personal financial disaster. In some cases civil practitioners who, although over military age, offered their services to their local War Committees have given up their practices, and every other source of professional income, and have even moved their homes in order that they might help to carry on the work of the Pensions Boards. With the proviso that the maintenance of efficiency is the prime consideration, the circular in question directs that civil practitioners shall be gradually replaced by demobilized officers. It is poor consolation to a man between 50 and 60 years of age, faced with a sudden diminution of his income by one-half, and a further possibility of his services being dispensed with altogether, to be told that his work has been done satisfactorily.

Of course it was understood that there was no real security of tenure, but it was at least known that the work of the boards would have to be carried on by some one for a very considerable time, and the idea was, in some instances, encouraged that efficient service would probably mean retention of office.

All honour to the overseas men. It was expected that, in return for what they have done, they would have the preference in new appointments. If, however, the circular from the Ministry of Pensions really means that civil practitioners shall be displaced as soon as possible, and if other ministries and Government departments act in the same way, one question is surely justifiable: What avenue will be left open for the senior man who has disposed of his practice, and whose age is the only reason preventing him, too, from having been an overseas man? Some source of income is necessary even for him. Suggestions on this point will be gladly received by—Yours, etc.,

June 10th. "SENEX."

SIR,—I see in the JOURNAL of June 7th, p. 716, the circular letter issued by the Director-General of Medical Services from which it is evident that those of us who were too old to serve in H.M. Forces, and who were anxious to do so, will not receive any favours. At the same time, I think I can show we have done our bit.

In the great majority of cases the practices of those who were young enough to serve have been looked after for them, and, in addition to that, many of us have since November, 1917, acted on medical recruiting and pensions boards, thereby releasing army men for other service at home and abroad. I need not go into the reasons which caused these boards to be handed over to civilian doctors, but their conduct since the change has fully justified it. The doctors left at home have been hard worked, while it has been frequently stated that many of those who joined up have had a soft job; men have also gone into khaki without ever leaving their homes or their practices.

The sting of the letter lies in the statement that "attendance on medical boards is not to count as war service." Was it peace service?

You say that you have the authority of the Ministry for saying that it recognizes to the full the excellence of the work done, which recognition takes the form of shunting them off the boards on which they have done good work, and with the procedure of which they are thoroughly conversant.—I am, etc.,

June 10th. MEMBER OF MEDICAL RECRUITING AND PENSIONS BOARDS.

OFFICIAL FEES FOR MEDICAL SERVICES.

SIR,—Is it not time that something were done towards standardizing the medical fees paid by Government departments and by local authorities? A few examples will suffice:

1. One Government department pays 2s. a head for "medical inspection"—that is to say, for physical examination of candidates for certain posts.
2. Another department offers the same remuneration, and gives a list of about twenty-two details which are to be noted.
3. On reference to the *Medical Directory* I find that the Government unblushingly offers certifying surgeons under the Factory and Workshops Acts such fees as 2s. 6d. for visiting a small factory, and 7s. 6d. for visiting one employing 100 hands.
4. A certain education authority pays a fee of 2s. 6d. to the doctor who will examine a candidate as to his proficiency in first-aid work.
5. A recently established body, the Local War Pensions Committee, offers as an adequate fee for a medical referee under the Ministry of Pensions the sum of 5s.

Is it any wonder that the Government cut down notification fees from 2s. 6d. to 1s. or less when it appears to think that the value of a medical "opinion" is about 2s. 6d.? Police fees, police court, quarter sessions and assize court fees all need revising.

Having a personal interest in one of the Government departments to which I have alluded I applied some time ago for a reconsideration of the scale of fees, which, as I pointed out, is very low. I did this by way of protest, knowing pretty well what sort of reply I should get. In due course the reply came, and it was to the effect, first, that the amount of work in that particular branch in my district was so small that it was not worth while to go into the matter; and, secondly, that, seeing that no complaint as to fees had been received from the town of ———, where there is a good deal of this particular work, my complaint was scarcely reasonable. That is as far as individual effort is likely to get; the question is, does the British Medical Association consider these fees adequate, and, if not, can it do anything to improve matters?—I am, etc.,

Plymouth, June 1st. CHARLES J. COOKE.

SALARIES OF MEDICAL OFFICERS OF HEALTH.

SIR,—In reference to the post of medical officer of health for Bethnal Green, recently advertised at a commencing salary of £750 per annum, it must be a matter of extreme regret to metropolitan medical officers that such an advertisement should have been allowed to appear in the JOURNAL of the British Medical Association.

Before the war the Local Government Board refused to sanction an appointment for a London borough at a salary under £600, and if the British Medical Association really intends to promote the welfare of its M.O.H. members and be consistent, it should enforce its resolution concerning the 33⅓ per cent. advance and not publish these posts at a less rate; £800 (£600 *plus* 33⅓ per cent.), a price now offered for the lower appointments in the provinces, would thus be the absolute minimum salary.

It is to be hoped that the Local Government Board will be approached on the matter and that the appointment will not be sanctioned, otherwise a very retrograde step will herald in the new Ministry of Health.

No medical officer of health can live in London at the present time, do his duty, and keep up the dignity of his position at a less salary than £1,000 per annum, and the sooner the Ministry of Health is made acquainted with this fact the better, for it is appalling to think of the value set upon the services of highly qualified medical men in some of the London boroughs in the past.

If it is essential that London health should be strictly guarded, then only medical men of the highest standing should be appointed. One weak link in the chain of the metropolitan boroughs may mean disaster and disease

throughout London, especially as regards diseases connected with the war.—I am, etc.,

MEMBER.

London, June 17th.

*** We are obliged to our correspondent for calling attention to this matter; the position seems to us quite clear. The minimum salary approved by the Local Government Board before the war being £600 a year, the minimum salary at the present time, according to the resolution of the Association, should be not less than £800.

Obituary.

SIR EDWARD STIRLING, C.M.G., M.D., F.R.S.,

Professor of Physiology in the University of Adelaide.

BRIEF mention was made of the death of Sir E. C. Stirling in our issue of April 5th. We have now received the following biographical notice from our correspondent in Adelaide:

Professor Stirling did not live long to enjoy the knighthood he received in 1917. He contracted an illness when out duck shooting on January 1st, 1919, when the temperature was 105° in the shade. His heart suddenly failed, and death occurred on March 20th.

Edward Charles Stirling was born at Strathalbyn in South Australia in 1848, and educated at St. Peter's College, Adelaide. He was one of a group of young men who, in the mid-sixties, left South Australia for Cambridge, and mostly went to Trinity College. Before entering there he spent a year or more in Germany and France. In 1869 he graduated as B.A. with honours in natural science. Whilst working for his degree he also commenced his preliminary medical studies, but subsequently he migrated to St. George's Hospital. In 1872 he became M.R.C.S., and in the following year he took the M.A. and M.B. at Cambridge, and in 1874 the F.R.C.S.Eng. Appointed house-surgeon at St. George's he worked his way up to the staff through the usual gradations, finally becoming assistant surgeon and lecturer on physiology in the medical school, as well as on operative surgery; he was surgeon also to the Belgrave Children's Hospital. In 1877 he took a trip home to South Australia and married Miss Jane Gilbert, daughter of the owner of a well-known station and vineyard, "Pewsey Vale," returning to London with a view of settling there as a consultant; he proceeded to the M.D. in 1880, but nostalgia and other reasons decided Dr. and Mrs. Stirling to return to Adelaide, and they came out finally in 1881.

Here there was plenty of scope for a man of his energy and abilities. His experience as a lecturer on the subject pointed to him as the fit and proper person in the community to undertake the teaching of physiology in the newly-founded University of Adelaide. His high qualifications also secured for him the position of honorary medical officer to the Adelaide Hospital. His scientific tastes predisposed him to the study of anthropology. For a hobby he amused himself with gardening. Not content with four such strings to his bow, he entered Parliament, and served as a member for North Adelaide for three years, but was not re-elected.

As a physiologist it is not pretended that Dr. Stirling took any very high rank; he was rather a teacher of the elements of biology than an experimenter, or investigator at first hand; nor had the university the laboratories or the apparatus for intricate investigations. But it was Dr. Stirling's great merit that he first saw the possibility of establishing a curriculum for the M.B. degree, and that he persuaded a wealthy colonist, Sir Thomas Elder, to found a chair of anatomy. The Hon. J. H. Angus had already endowed a professorship of chemistry, and so the medical school started in 1885. When the first two years were drawing to a close, it was Dr. Stirling chiefly who arranged for the continuance of the course with the assistance of local talent as lecturers in the professional subjects. For thirty-four years he has been the acknowledged doyen of the medical school, and it was only recently, when the armistice was signed, that he announced his intention of finally retiring at the end of this year. In 1900 his lectureship was converted into a professorial chair. Much of his time was taken up, too, with his duties as a member of the University Council, and Dean of the Faculty, whether of Medicine, or of Science. Soon after Dr. Stirling's appointment to the Adelaide Hospital the staff became differentiated into physicians, surgeons, and an ophthalmologist. For several years Dr. Stirling acted as surgeon and did most creditable work; he published reports of the first successful removal of a uterine fibroid by the abdominal route, making use of the serrenœud, and of the first successful vaginal extirpation of the uterus for cancer. His reports now seem perhaps almost meticulous in detail, but they are written in excellent style, a style that is sadly lacking in much of our modern medical literature; his Cambridge training here came strongly into evidence. Dr. Stirling did indeed once endeavour to start as a consulting surgeon; fortunately he was independent of practice, for the patients did not come. No one has yet succeeded in practice in Australia who has not worked his way up from the bottom of the ladder, for the laity care nought for M.D.(Cantab.) nor F.R.C.S. Australian practitioners are all "doctors." Dr. Stirling's main contribution to medical literature is the article in *Allbutt's System* on hydatid disease written in conjunction with Dr. J. C. Verco.

Stirling joined the South Australian Branch of the British Medical Association in 1881 and in 1888 was its President. In intercolonial medical circles his reputation gained him the position of President of the Section of Surgery at Melbourne in 1889 and President of the Congress held in Adelaide in 1905.

As an ethnologist and palaeontologist he was perhaps at his best, and the Adelaide Museum is a lasting memorial of his work as director of the institution; its ethnological department is second to none in the Australian States. In palaeontology his name will always be associated with the *Diprotodon*, the mammoth wombat which was restored from bones found in 1892 in the dry Lake Callabonna (otherwise Lake Mulligan) and the *Genyornis newtoni*, the rival of the moa, found in the same districts. His researches gained him the F.R.S. in 1893.

On such vexed questions as to whether the platypus lays eggs, and as to the phenomena attending the parturition and lactation of the ordinary marsupials, questions very dear to the bushman's mind, Dr. Stirling was concerned to the extent of dissipating some of their long-cherished fairy tales. Another biological triumph was his description of the *Notoryctes typhlops*, the blind marsupial mole. He was, too, something of an explorer. His ride across the continent with Lord Kintore's party may not have been of the highest importance to science, though it gained him the C.M.G. in 1892; but a far more important piece of work was his association with the Horn Expedition of 1894, when he acted as medical officer and anthropologist. His activities did not end here. He was connected with societies for the prevention of cruelty to animals and was president of the first State Children's Council. In Parliament he succeeded in carrying through the Act enfranchising the women of South Australia. He was conspicuous in his attempts to preserve the fast disappearing fauna of the State. His garden at Mount Lofty was at once his pride and one of the chief show places for visitors. When it is added that he was a good shot, and could ride camel or horse, that his delight was to do the work of a Jerry Cruncher in an aboriginal burying ground or to pay a visit to a whale stranded some 500 miles away from the city, some idea has been given of his many activities, his boundless energy, and full life.

SIR BARCLAY J. BARON, M.B., C.M.EDIN.,

Consulting Physician for Diseases of the Throat and Nose, Bristol General Hospital.

WE regret to record the death, on June 7th, at Clifton, of Sir Barclay Josiah Baron, the well known Bristol laryngologist. He was born at Devonport in 1857 and received his medical education at Edinburgh University, where he had a distinguished student career, winning prizes and medals and the Ettles scholarship. After taking the degrees of M.B. and C.M. in 1881 he continued his studies in Berlin, Strassburg, and Vienna. In 1883 he began practice in Bristol, and in the following year founded the department for diseases of the nose and throat at the General Hospital, of which he had charge for eighteen years. On resigning the post he was appointed consulting physician in this specialty. While at Edinburgh he had served as assistant to the professor of pathology, and he became lecturer on pathology, practical pathology, and morbid anatomy at the

Bristol medical school. In 1889 he was secretary of the Section of Laryngology at the annual meeting of the British Medical Association at Leeds, and five years later he was vice-president of the Section of Laryngology during the meeting at Bristol. For some years he was president of the Bristol Branch of the Association and of the Bristol Medico-Chirurgical Society. He also served as president of the British Laryngological, Rhinological, and Otological Association, and member of Council of the Laryngological Society of London. Among his contributions to the *Bristol Medico-Chirurgical Journal* was a paper giving an account of twenty years' experience in the treatment of diseases of the nose, throat, and ear, published in 1901. In recent years he took a leading part in the public affairs of Bristol. He was elected a councillor in 1913, and did excellent work on the Health Committee. Within two years he was elected Lord Mayor of Bristol, and was re-elected when his first term of office expired. During the war he took an active share in local undertakings, and served as honorary consultant for diseases of the ear, nose, and throat to the military hospitals in the Southern Command. During his second year of office as Lord Mayor he was created an alderman and a Justice of the Peace, and in 1918 he received the honour of knighthood. Sir Barclay Baron leaves a widow and one son, who is now in France, and three daughters. His death occurred with some suddenness a fortnight after an accident in which he fractured several ribs.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE examination for Part I of the diploma in psychological medicine will be held in October next, and for Part II in December. As already announced, lectures and practical work in preparation for these examinations will be given at the Psychological Laboratory, Cambridge, from August 2nd till August 30th. The Managing Committee recognize the Military Special Neurological Hospitals as institutions in which the clinical experience for Part II may be obtained. For particulars of the course application should be made to Dr. C. S. Myers, F.R.S., The Psychological Laboratory, Cambridge.

The following medical degrees have been conferred:

M.D.—A. P. M. Anderson, W. Shipton, R. A. Peters.
M.B.—F. G. Lescher, J. H. Jordan, E. L. C. Smith.
B.CH.—R. T. Raine, E. L. C. Smith.

Dr. C. S. Myers has been elected to a Fellowship at Gonville and Caius College.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on May 28th.

Dr. Victor J. Woolley has been recognized as a teacher of pharmacology at St. Thomas's Hospital Medical School, and Dr. George E. Septimus Ward as a teacher of clinical medicine at the Middlesex Hospital Medical School.

In 1917 the Senate approved for the duration of the war an arrangement under which the East London College undertook the teaching of the first year medical subjects for students of the London Hospital Medical College; the Senate has now agreed that this transference shall be permanent.

Professor A. D. Waller, F.R.S., and Dr. S. Russell Wells were reappointed director and treasurer respectively of the Physiological Laboratory.

It was resolved to suspend for 1919 Section 10 of the regulations as to intermediate examinations (Internal Students) in as far as may be necessary.

(i) To allow war students who have presented themselves at a Special Intermediate Examination in Science, in Chemistry, Physics, Botany, and Zoology, and not passed the examination, to enter for the General Intermediate Examination in Science in September, subject to the general conditions laid down for the admission of war students to September Intermediate Examinations.

(ii) To allow war students who present themselves at a General or Special Intermediate Examination in 1919 and fail, but pass in one or more of the following: (*a*) Chemistry, or (*b*) Physics, or (*c*) Botany and Zoology, to be exempted, respectively, at the First Examination for Medical Degrees from examination in (*a*) Chemistry, or (*b*) Physics, or (*c*) Biology; no exemption in Biology at the First Examination being granted to a candidate who at the Intermediate Examination did not pass in both Botany and Zoology.

The following staff examiners for medical degrees for 1919-20 were appointed:

Anatomy: Dr. A. Macphail and Professor G. Elliot Smith. Bacteriology: Professor R. T. Hewlett. Chemistry: Dr. P. Haas and Professor J. M. Thomson. Forensic Medicine: Professor Matthew Hay and Dr. R. A. Lyster. General Biology: Drs. J. Stuart Thomson and J. T. Cunningham. Medicine: Professor Arthur J. Hall and Sir James Galloway (internal). Mental Diseases and Psychology: Drs. Robert H. Cole and W. H. B. Stoddart. Obstetric Medicine: Dr. G. F. Blacker and Dr. Comyns Berkeley. Pathology: Dr. Charles Bolton, F.R.S., and Professor H. R. Dean. Pharmacology: Professor H. J. Campbell and Dr. F. Ransom. Physics: Drs. W. Makower and F. Lloyd Hopwood. Physiology: Professors E. H. Starling, C.M.G., F.R.S., and J. S. Macdonald, F.R.S. State Medicine: Drs. Richard K. Brown and W. G. Savage. Surgery: Mr. V. Warren Low, C.B., and Mr. James Sherren, C.B.E. (internal). Tropical Medicine: Dr. C. W. Daniels.

The following are among the further appointments to the Senate for 1919-23 by the bodies indicated.

Convocation (Medicine): Dr. T. D. Lister, vice Sir Thomas Barlow. Convocation (Science): Dr. S. Russell Wells (reappointed). Royal College of Physicians of London: Professor S. H. C. Martin, F.R.S. (reappointed). Royal College of Surgeons of England: Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O., vice Sir Alfred Pearce Gould, K.C.V.O., C.B. London County Council: Sir William J. Collins, K.C.V.O. (reappointed).

Professor G. Elliot Smith has been admitted to the Faculties of Medicine and Science.

The following are among the examiners appointed for the final examinations in the Faculties of Arts and Science, the chairmen of the respective boards being indicated by an asterisk:

Human Anatomy and Morphology: J. P. Hill (University College); *J. E. S. Frazer (St. Mary's Hospital Medical School), together with the external examiner. Physiology: W. M. Bayliss and C. E. Spearman (University College), *W. D. Halliburton and O. Rosenheim (King's College), J. S. Edkins (Bedford College), F. A. Bainbridge (St. Bartholomew's Hospital Medical School), M. S. Pembrey (Guy's Hospital Medical School), together with the external examiner.

Forms of entry for an additional first examination for medical degrees which begins on September 22nd, 1919, must be sent in to the Academic Registrar by August 13th. An additional second examination will begin on December 2nd.

UNIVERSITY OF ST. ANDREWS.

AT a meeting of the University Court, on June 10th, the resignation of Dr. David McEwan from the chair of surgery, which he has held for twenty-one years, was received, as also the resignation of Professor C. R. Marshall from the chair of materia medica, to which he was appointed in 1899, he having been appointed professor of materia medica in Aberdeen. It was reported that the bacteriology department at University College, Dundee, was now being equipped under the direction of Dr. W. J. Tulloch, lecturer in bacteriology, and that it was proposed to carry out in that laboratory the examination of material submitted by local public health authorities under venereal disease schemes.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on June 13th, when the President, Sir Norman Moore, Bt., was in the chair.

Licences to practise physic were granted to Simon Kelly, Manchester, and Charles Albert Lang, Toronto University College and King's College.

The President announced the following appointments to lectureships:—The Goulstonian—Dr. J. L. Birley, O.B.E.; the Horace Dobell—Sir William Leishman, K.C.M.G., F.R.S.; the Lumleian—Sir John Rose Bradford, K.C.M.G., F.R.S.; and the Croonian for 1921, Dr. F. L. Golla.

A letter was received from Dr. Addison inviting the college to nominate one member of a small panel to assist him in the formation of a consultative council to the Ministry of Health. On the motion of Sir F. W. Mott, seconded by Dr. R. Crawford, the President was asked to accept the nomination, and consented.

Medico-Legal.

MENTAL EXAMINATION OF A MURDERER.

A REVIEW of the expert medical evidence in the case of the man Beckett who has been sentenced to death for the murder of a family in the East End of London would certainly tend to the conclusion that the crime was the product of an unsound mind. The family history of the man reveals a strongly neuropathic taint, he shows evidence of definite congenital mental deficiency with only rudimentary social and moral development, he has suffered from epileptic fits since the age of twelve, and his conduct appears to have been influenced by the morbid promptings of auditory hallucinations. Furthermore, it is justifiable to assume that all these morbid traits had been aggravated by the illnesses and sufferings the man experienced as a prisoner in the hands of the Turks. The personality would thus seem to be quite definitely psychopathic, and to contain especially those abnormal features which find expression, almost inevitably, in acts of uncontrollable violence. It is a matter of common experience that impulsive episodes are of frequent occurrence in the epileptic wards of any mental hospital, and such outbursts are not necessarily committed in a condition of epileptic automatism but are the expression of morbid irritability and tension in which the patient is clearly unaccountable for his acts. It is only the care and control which an institution provides which prevents such episodes from issuing in a serious outcome.

In view, therefore, of the well established tendencies of the mentally enfeebled epileptic and of the unanimous evidence in this particular case from those who are best qualified to estimate the mental status of the man, it is difficult to understand how these considerations can fail to have weight in estimating responsibility. The case would seem to be eminently one in which the crime cannot be judged apart from the personality of the criminal. From the medical point of view, the law as it stands at present in relation to criminal responsibility is far from satisfactory. The complex question of responsibility cannot be expressed in a simple formula, and each case should be taken on its merits. In the majority of cases this is now recognized

by judges, and a wide interpretation is usually allowed to the M'Naughton dictum. According to the medical evidence, however, in this instance the legal conditions under which a criminal is held not to be responsible for his crime would actually seem to be fulfilled, and the man was apparently incapable of appreciating the nature of the act for which he has been condemned, or of knowing that it was wrong at the time it was committed. As stated in the JOURNAL of June 7th, representations are being made to the effect that the case should be retried in view of the evidence as to the man's mental state now obtained. Whether or no this particular course is necessary, it would certainly appear to be an instance in which the Home Secretary should order a further investigation into the mental condition of the man, and in the event of the conclusions from the medical evidence being confirmed, the usual mechanism of reprieve and transfer to a criminal lunatic asylum could be carried into operation. Though such a method of procedure may not be ideal from various points of view, it is that provided by the law as it exists at present, and ensures ample justice to the condemned man.

The Services.

R.A.M.C. MEMORIAL SERVICE.

THE service in memory of the officers and men of the Royal Army Medical Corps who have fallen in the war will be held in St. Paul's Cathedral at 12 noon on Wednesday next, June 25th. Officers of the corps who have relinquished their commissions may return to khaki for the purpose of attending the memorial service.

R.A.M.C. DINNER.

THE annual dinner of the officers of the Royal Army Medical Corps was held on June 11th at the Savoy Hotel, London. Field Marshal H.R.H. the Duke of Connaught, Colonel-in-Chief of the Corps, presided, and was supported by Lieutenant-General Sir John Goodwin, D.G., A.M.S., and by three past Director-Generals—Sir Alfred Keogh, Sir Launcelotte Gubbins, and Sir Arthur Sloggett. The number of officers present was 324.

Captain J. E. Carpenter, R.A.M.C.(S.R.), was reported as wounded on the North-West Frontier of India in a casualty list published on June 11th.

Medical News.

SIR HENRY HADOW, principal of Armstrong College and an authority on the history of music, has been appointed Vice-Chancellor of the University of Sheffield, vacant since 1916, when Mr. H. A. L. Fisher became President of the Board of Education.

THE medical practitioners of Utrecht have decided that a fee equivalent to half that of an ordinary visit shall be paid for consultations by telephone. A tariff of fees for telephonic consultations has recently been adopted in Prussia.

THE members of the Tuberculosis Society will dine at the Trocadero Restaurant, London, on Saturday, June 28th, at 7.30 p.m., and hold their business meeting afterwards.

A BALL in aid of King's College Hospital Clubs and Societies Union will be held at Prince's Galleries, Piccadilly, on Monday, June 30th, and it is hoped that the occasion will also serve as a post-war reunion of old King's men. Tickets, one guinea each, can be obtained from the Dance Secretary, King's College Hospital, Denmark Hill, S.E.5.

THE prize-giving of the London (Royal Free Hospital) School of Medicine for Women will take place on Thursday, June 26th, at 4 p.m., when Miss Frances Ivens, M.S., M.B., Légion d'Honneur, Croix de Guerre, a former student of the school, will present the prizes and certificates.

THE Local Government Board at the end of last week issued a circular letter to county, town, and district councils, indicating the procedure to be adopted after the Board has approved house plans. It is laid down that the maximum time between the approval and final provisional acceptance of tenders should not exceed five weeks.

COLONEL S. S. HOYLAND, M.D., V.D., on his retirement from the presidency of the National Service Medical Board in Bristol, has received a presentation from the medical members of the board, and a signed address placing on record their sense of the great ability and fairness with which he discharged his duties.

THE British Hospitals Association has been informed by the Surplus Government Property Disposal Board that it is not yet possible to give any definite information as to the quantities and descriptions of medical stores that will be available for disposal. Hospital managers are advised to communicate on the subject with Mr. W. J. U. Woolcock, controller of medical stores, at Imperial House, Tothill Street, Westminster, S.W.1.

ON the recommendation of the Minister of Pensions it has been decided that every soldier who is provided with an artificial limb at a fitting hospital, may receive one month's training in the use of the artificial limb, at the hospital, before being discharged from the service. Discharged men who need further instruction in the use of an artificial limb may obtain similar training. Application for this should be made through the Local War Pensions Committee.

THE work of the Scottish Women's Hospitals has been greatly reduced, but is continuing vigorously in Serbia, where the need is very great. Hospitals are being maintained at Belgrade and at Vranja in Old Serbia. In the latter place the Scottish Women's Hospital is the only medical centre for miles around. The Head Quarters Committee, 2, St. Andrew Square, Edinburgh, is represented in London by an office at 110, Victoria Street, S.W.1.

WHEN recently he completed his seventieth year a letter of congratulation was addressed to Dr. John Beattie Crozier expressing warm appreciation of his eminent services to British scholarship and speculation and of his unselfish endeavours for human welfare. Among the signatories are Viscount Morley, Viscount Bryce, Mr. Frederic Harrison, and Sir William Osler. Dr. Beattie Crozier graduated in medicine at the University of Toronto in 1872 and was admitted L.R.C.P.Lond. in 1873. He is the author of *Civilization and Progress*, of which a fifth edition appeared in 1909, *A History of Intellectual Development* (1897–1901), *Sociology Applied to Practical Politics* (1911), an autobiography, and several works on political economy.

THE weekly programmes of the post-graduate course arranged by the Fellowship of Medicine are striking evidence of the opportunities which can be afforded in London. There are appointments every ordinary day from 9 a.m. to 8.30 p.m. and even on Saturdays until 4 p.m. The opportunities offered range from attendance at operations, major and minor, and demonstrations and clinics, to set lectures at the house of the Royal Society of Medicine on general subjects, such as the nature and treatment of facial neuralgias and spasms, the principles of the operative treatment of malignant disease, and the work of a psycho-therapeutic department. The programme is issued by the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

ON Hospital Sunday in London last year Bishop Bury, preaching at St. Peter's, Vere Street, a church attended by many members of the medical profession in the Harley Street district, spoke of the spiritual message the laity were now giving and were so well fitted to give. He went on to say that he looked forward to the time when it would seem the most natural thing in the world that devout medical men should occupy all the pulpits on Hospital Sunday, as it would afford a special opportunity for the message they alone could give. This suggestion is to be put into practice on Sunday next, which is Hospital Sunday in London this year, when Sir James Cantlie, K.B.E., will, with the permission and approval of the Bishop of London, preach at the evening service at St. Peter's at 6.30.

THE National League for Health, Maternity, and Child Welfare has issued the programme of a national conference on infant welfare to be held at the Kingsway Hall, London, on Tuesday, Wednesday, and Thursday, July 1st, 2nd, and 3rd. On the first day the inaugural address will be given by Dr. Addison, M.P.; in the morning a discussion will be held on ante-natal and neo-natal mortality and its prevention, at which Sir Arthur Newsholme will take the chair, and papers will be read by Dr. Amand Routh, Dr. Eardley Holland, and Dr. Morna Rawlins; in the afternoon papers will be read by Dr. C. W. Saleeby and Dr. J. J. Buchan, with Sir Malcolm Morris in the chair. At the morning session of the second day there will be a discussion on the work of the midwife in relation to ante-natal and neo-natal mortality; Sir Francis Champneys will take the chair, and Dr. Fairbairn and Dr. Vera Foley will read papers; in the afternoon a discussion will be opened by Dr. Rhoda Adamson on the industrial employment of mothers in relation to infant mortality, at which Dr. Mary Scharlieb will preside. The third day will be devoted to discussions on the illegitimate child, with Sir John Kirk in the chair at the morning session, and Mrs. H. A. L. Fisher at the afternoon session. Dr. Whitley, M.O.H. for Swindon, will read a paper on criminal abortions and abortifacients.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. ACTING FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

INCOME TAX.

WINCHESTER inquires whether it is correct to include a yearly sum for depreciation of motor car among professional expenses.

*** No. As the law stands, an allowance for depreciation is given only to the profits of a "trade," and as the profits of a "profession" are separately charged to income tax, a medical practitioner is outside the scope of the depreciation allowances. On the other hand, he can claim the cost of replacing a car, provided any expenditure on improvements is excluded.

J. F. C. sends a similar inquiry, and asks as to the position with regard to the cost of a second car purchased owing to the possibility that his own car might break down and be irreplaceable.

*** The purchase of a second car while the first car was still retained for use would constitute capital expenditure, however necessary the purchase may have been. If one car is sold our correspondent would, we think, have a claim to the loss on the car as a species of replacement expenditure, but while he retains the two cars he appears to have no remedy.

TEMPORARY ARMY OFFICER inquires whether income tax or super-tax is chargeable on a gratuity granted on demobilization.

*** No. The matter is being dealt with in the Finance Bill now before Parliament.

X-RAY OUTFIT WITH ENGINE AND DYNAMO.

"*X*-RAY," who is going abroad to a place where no electric supply will be available, had intended to get current for an *x* ray outfit from an engine and dynamo, but has been informed that the current cannot be supplied direct, and that accumulators would be necessary.

*** The reply to this question is that the inquirer has been misinformed. The army was supplied with a great many generating sets, consisting of a petrol engine and dynamo complete with switchboards and control. The *x* ray apparatus could be energated direct from these engines, and a current of 10 ampères and 70 volts obtained. Each set was arranged for the charging of accumulators, and these were included if accumulators were likely to be required. With the dynamo and cells in series as much as from 4 to 5 milliampères could be passed through a medium tube. Accumulators are not necessary, but are advantageous since (1) they are available if the *x*-ray apparatus is wanted in different places—such as hospital wards; (2) they are available if, for any reason, the engine is temporarily out of order; and (3) they are useful for lighting purposes in the *x*-ray and dark rooms.

LETTERS, NOTES, ETC.

THE Standard Motor Company, in view of advertisements which have appeared recently, desire to state that no Standard 9.5 h.p. two-seater cars were manufactured by them between November, 1915, and the date of the armistice, November, 1918.

PARTURITION UNDER MORPHINE AND HYOSCINE.

DR. J. REID (London) writes: In a third confinement the usual routine of twilight sleep was carried out. The os was about the size of half a crown when the morphine and hyoscine was injected. A trained nurse was in attendance. At the end of two hours the head receded and pressed on the anterior segment of the uterus, while the os was closed. In about six hours more the head was opening the os, and at the end of twelve hours the os was not completely dilated. The lady ate and drank nothing, and said the pains had a "dead" or "dull" sort of feeling. As she felt exhausted, under chloroform the labour was completed. She had previously had a confinement with and one without instruments, neither of them long, and I should say the case would have ended without instruments and "twilight sleep" in four hours, or at most in six hours. The spasmodic state of the lower segment of the uterus, even when labour was about to be completed, made me think that I had wisely given up the use of hyoscine in confinements years before twilight sleep was talked of. In parturition of normal women there should be sensations of normal organic kindred kind only. Extra pains often come from dread of abnormalities, fatigue, and real troubles.

MEDICINE AND LETTERS.

THE note under this title in the JOURNAL of May 31st, which was intended mainly to draw attention to the fact that the connexion between medicine and letters, so strong in the past, continued in the present day, has brought us two letters from Dr. Mercier, to which, though they were not intended for publication, we have his permission to allude. He thinks we should have mentioned Mark Akenside, the poet, a Fellow of the Royal Society and of the Royal College of Physicians, of whom Pope said: "This is no everyday writer," and Sir Richard Blackmore, physician in ordinary to William III, a Fellow of the Royal College of Physicians, who wrote epics and heroic poems to the rumbling of his chariot wheels. We had, however, proposed to confine our references to writers of the past to the immortal writers, and we hardly think that either Akenside or Blackmore can be classed with these. Dr. Mercier continues: "However, there are other omissions that surprise me a little. Sydenham and Sir Thomas Watson had a high literary reputation; but it is true that they did not, as far as I know, write on non-medical subjects. This is not true of Dr. Caius, who wrote a history, either of Cambridge or of its University, I forget which. Edward Jenner, too, wrote some charming lines on common prognostics of changes in the weather, of which only one line sticks in my memory:

Betty's corns begin to shoot.

The most distinguished of all medical authors was perhaps Arbuthnot, the friend of Pope, Swift, and Warburton, and the joint author of *Martinus Scriblerus.*"

It was to Arbuthnot that Pope, the other author of the book, addressed one of the finest compliments ever paid by a patient to the physician:

Friend to my life, which did not you prolong,
The world had wanted many an idle song.

Caius did write a history of the University of Cambridge, but it was a volume appended to an essay in which he discussed the comparative antiquity of the universities of Oxford and Cambridge. The learned Dr. John Venn, in his memoir of John Caius, remarks that of Caius's works the most controversial, and the one which probably secured the most interest in his own day, was that on the antiquity of the university. When Queen Elizabeth visited Cambridge in 1564, the public orator, William Masters, asserted in his speech the superior antiquity of Cambridge over Oxford. This being reported to Thomas Caius, Master of University College, Oxford, he forthwith wrote a MS. reply. John Caius happened to see this and wrote a rejoinder, published anonymously in 1568. The rival advocates died within a short time of each other. No modern historian, dryly adds Dr. Venn, would attach much value to the arguments on either side.

Dr. Mercier suggests the addition of the name of Dr. John Brown, of Edinburgh, author of *Rab and his Friends.* He adds, "These are the only literary doctors I can think of at the moment, and it must be admitted that the list is a meagre one, containing very few men of the first rank in literature. The claims of both literature and medicine are exacting, and scarcely allow a divided allegiance. It is given to very few to follow both successfully."

THE following appointments of certifying factory surgeons are vacant: Ballymore Eustace (Kildare), Bedford (Bedfo Maynooth (Kildare), Randalstown (Antrim), Rath (Carlow).

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.